



# **Importance of teaching and practices of Ethiopian Orthodox Tewahedo Church in forest biodiversity conservation: Implications for national conservation policy**

**Abate Gobena**

Supervisors: Eugene E. Ezebilo, National Research Institute, Papua New Guinea  
Vilis Brukas, SLU Southern Swedish Forest Research Centre

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**Swedish University of Agricultural Sciences**

Master Thesis no. 290

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## Abstract

In Ethiopia, natural forests and woodlands cover only 12.3 million hectares, of which the remaining closed natural forests are 4.12 million hectares or 3.37%. Between 1990 and 2005, Ethiopia lost over 2 million ha of its forests with an average annual loss of 140,000 ha. amidst of the successive wave of deforestation and depletion, however, unique and valuable natural forest remnants survived in and around churchyards and monasteries of the Ethiopian Orthodox Tewahedo Church (EOTC).

EOTC is one of the oldest Christian churches with about 50 million followers, of which 450,000 clergy serving in about 40,000 parish Churches and 2,000 monasteries distributed all over Ethiopia. The Church, through its immense contributions, has influenced and shaped what is believed today to be the Ethiopian culture, which can be exhibited from literature, architecture, art, music, environment and medicinal heritages. The sacred grounds of most of these ancient churches and monasteries contain natural forest vegetation rich in biodiversity which constitute important habitats and remained as the last remnant forest patches and biodiversity habitats for many centuries.

The Church, through its theological teaching and traditional practices entrenched on the Sacred Scriptures (*kidusat metsaheft*) - including the Holy Bible, the Acts and Hagiographies of Saints (*gedle kidusan*) - contribute for the survival and maintenance of those ancient forest remnants and biodiversity habitats. This research aimed at exploring how the theological reasoning and traditional practices of EOTC helped for the survival of ancient remnants of forest biodiversity in churchyards and monastery compounds as islands of rich and indigenous biodiversity in a sea of deforested landscape. The study will identify EOTC's teachings and practices related to forest conservation and discern their relevance as a response to the current problem of biodiversity degradation, hence, their significance to the national conservation policy and strategy.

**Key Words:** - *Forest Conservation, Church Forests, Teaching and Practices, Conservation Policy*

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“Blessed be God, Who has not rejected my prayer, nor removed his mercy from me!”

(Ps. 66:20)

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Abate Gobena

## List of Acronyms

AADO	Addis Ababa Diocesan Office (of EOTC)
AFF	African Forest Forum
ARC	Alliance of Religions for Conservation
AYCCA	Abune Yoseph Community Conservation Area
BOE	Baha'i Office of the Environment
CDA	China Daoist Association
CDA	China Daoist Association
CPP	Cal Poly Pomona
EcoMENA	Environmental Conservation in the Middle East and North Africa
EOC-DICAC	Ethiopian Orthodox Church Development and Inter-Church Aid Commission
EOTC	Ethiopian Orthodox Tewahedo Church
FAO	Food and Agricultural Organization
FAWCDA	Forest and Wildlife Conservation and Development Authority
FGRCP	Forest Genetic Resources Conservation Project
GOs	Governmental Organizations
HTTC	Holy Trinity Theological College
IBC	Institute of Biodiversity Conservation
IBCR	Institute of Biodiversity Conservation and Research
IUCN	International Union for Conservation of Nature
JNF	Jewish National Fund
JVL	Jewish Virtual Library
MOA	Ministry of Agriculture
NFPAs	National Forest Priority Areas
NGOs	Non-Governmental Organizations
NRCCC	National Religious Coalition on Creation Care
NT	New Testament
NTFPs	Non-Timber Forest Products
OT	Old Testament
PRC	Pew Research Centre
RDPS	Rural Development Policy and Strategy
SCB	Society for Conservation Biology
TPE	Tinsae Printing Enterprise
UN	United Nations
URI	United Religions Initiative
UoS	University of Surrey
USAID	United States Agency for International Development
VVCY	Vedic Vision of Consciousness & Yoga
WBISPP	Woody Biomass Inventory and Strategic Planning Project
WCC	World Council of Churches
WCMC	World Conservation Monitoring Centre
WWF	World Wide Fund for Nature

# Table of Contents

Abstract .....	3
Acknowledgments .....	4
List of Acronyms.....	5
1. Introduction.....	9
1.1. Research Questions.....	12
2. Background .....	13
2.1. Religion and Forest Conservation .....	13
2.2. Major Religions towards Forest Conservation .....	14
1.1.1 Baha'ism.....	14
1.1.2 Buddhism .....	16
1.1.3 Confucianism .....	17
1.1.4 Daoism .....	18
1.1.5 Hinduism .....	19
1.1.6 Islam .....	20
1.1.7 Jainism.....	21
1.1.8 Judaism.....	23
1.1.9 Shintoism.....	24
1.1.10 Sikhism.....	25
1.1.11 Zoroastrianism.....	26
2.3. Christianity and Forest Conservation .....	26
3. Materials and methods .....	29
3.1. Materials .....	29
3.2. Methods .....	31
4. Finding and Discussion.....	35
4.1. Teaching and Practices Relevant for Forest and Biodiversity Conservation .....	35
4.1.1. Biblical and Ethical Foundation of Stewardship.....	35
4.1.2. Biblical Symbolism and Metaphors Related to Trees and Forest .....	37
4.1.3. Liturgical Teachings and Services .....	39
4.1.4. The Life and Teaching of Monastic Fathers and Saints.....	41
4.2. Tradition and Practice.....	49
4.2.1. Importance and Use of the Holy Tabot and the Holy Cross .....	49



4.2.2.	Importance and Use of Holy Oil, Incense and Myhrr .....	51
4.2.3.	Medicinal herbs/bushes/trees .....	52
4.2.4.	Sanctuary Thinking .....	52
4.2.5.	Tomb/Graveyard Plantation .....	53
4.3.	Implications to the National Conservation Policy .....	54
4.3.1.	The National Forest Conservation Policy .....	54
4.3.2.	Significance of Church Forests .....	56
4.3.3.	Policy Implications of Church Forests .....	58
5.	Recommendations .....	61
6.	Conclusion .....	62
	References .....	63
	Appendices .....	70
	Appendix 1: Tree and shrub species list of Debre Zequala Monastery Forest.....	70
	Appendix 2: Tree and shrub species list of Asebot Debre Wegge Monastery Forest. ....	71



## 1. Introduction

Environmental protection is one of the problems facing mankind today. Deforestation accounts for more than one-sixth of greenhouse gas emissions globally. Over the past 12 years, more than 500,000 square miles of forest has been lost worldwide, an area equivalent in size to the state of Alaska (Adams, 2014). Across Africa, forests are in decline. Over half of Africa's forests have been cut since 1900. This is leaving the continent drier, more subject to drought and less stable. In West Africa, some countries have now lost over 90% of their original forests. Data from the UN Food and Agriculture Organization (FAO, 2010) shows that for countries towards the eastern horn of Africa, the loss has been only slightly less severe. Ethiopia has lost about 60% of its forests since 1900 and Eritrea about 65%. In Zambia and Malawi, the annual loss is about 2.5% per year; for Zimbabwe the loss is about 0.7% (National Religious Coalition on Creation Care, 2009).

Ethiopia possesses one of the richest floras in Africa (Vivero et al, 2005). Much of this floristic wealth is reflected in the fact that Ethiopia is one of the Vavilov's centres of origin and/or diversity for many domesticated plants and their wild relatives (Asfaw & Tadesse, 2001). This allowed the country to home for about 6603 species of vascular plants, of which 15.1% are endemic and 4.9% of Ethiopia is designated for protection under IUCN (Bekele, 2001; Butler, 2006). The total number of species of woody plants is estimated to be 1000 out of which about 300 are tree species. The FGRC Project of the IBCR has enlisted 968 indigenous woody species of Ethiopia so far out of which 28 tree species, 31 shrub species and 2 liana species are endemic. These woody species are represented in 82 families and 320 genera (Bekele, et al 2001).

Different sources indicate that about 35-40% of Ethiopia's land area was covered with high forests at the turn of the 19th century. Reports of World Conservation Monitoring Centre (Butler, 2006) and African Forest Forum (Bekele, 2011), for instance, indicate that 11.9% or about 13 million hectares of Ethiopia is covered with natural woodlands and forests, which is down from 15.1 million hectares which was in 1990. Of this area, the remaining closed natural forests are 4.12 million hectares or 3.37% of Ethiopia's land area. Between 1990 and 2005, Bekele (2011) added, Ethiopia lost over 2 million ha of her forests with an average annual loss of 140,000 hectares; mainly due to rapid population growth, extensive forest clearing for cultivation and over-grazing, and exploitation of forests for fuelwood and construction materials without proper replanting. Further estimates based on information from LANDSAT imagery (of 1979) revealed that only 2.8 % of the land surface is under forest and woodland (Bishaw, 2009). As it is described above several authors and national or sub-national inventory projects have carried out assessments and documented the extent of forest resources and other land uses of Ethiopia. Among these, World Bank-funded Woody Biomass Inventory and Strategic Planning Project (WBISPP) has been considered as a key source of information on forests and other land uses in Ethiopia (Moges, et al 2010).

Table 1: The land-cover types of Ethiopia and their magnitude/proportion (WBISPP, 2005. P18)

No	Land Cover Type	Area In Hectare	Percentage
1.	Cultivated land	21,298,529	18.6
2.	High forests	4,073,213	3.56
3.	Plantations	501,522	0.4
4.	Woodlands	29,549,016	25.8
5.	Shrub lands	26,403,048	23.1
6.	Grasslands	14,620,707	12.8
7.	Afro-alpine	245,326	0.21
8.	Highland bamboo	31,003	0.027
9.	Lowland bamboo	1,070,198	0.97
10.	Swamp	810,213	0.70
11.	Water	828,277	0.72
12.	Bare rock, soil, etc	15,359,409	13.4

Exponential human population growth in the last few centuries has affected the natural world to the extent that massive alteration of habitats and associated biological changes threaten the existence of millions of species and basic ecosystem processes (Hongmao et al, 2002). The annual loss of the high forest area in Ethiopia has been estimated between 150,000 and 200,000 ha (Bekele et al, 2001). In total, between 1990 and 2005, Ethiopia lost 14.0 per cent, or around 2,114,000 hectares, of its forest cover. Measuring the total rate of habitat conversion from 1990 to 2005; based on MCRC (2006), Ethiopia lost 3.6% of its forest and woodland habitat due to firewood collection, conversion to farmland, overgrazing, and use of forest wood for building material. If this rate is maintained over the next 15 years then the only remaining high forests will be scattered remnants in inaccessible areas. Ethiopia, therefore, faces a difficult future, because the agricultural sector, which forms the backbone of the economy, is totally dependent on forest resources.

Amidst of the successive wave of deforestation and depletion of forest biodiversity, however, unique and valuable natural forest remnants survived in the Ethiopian Highlands in and around churchyards and monasteries of the Ethiopian Orthodox Tewahedo Church (EOTC). The sacred church and monastery lands of EOTC have remain for many centuries as islands of natural forest biodiversity in a sea of deforested landscape in much of the Ethiopian Highlands. Wassie & Lowman (2014) stated that in northern Ethiopia forests around churches are the last remnant forest patches, surrounded by highly depleted bare grounds, and which are currently under threat of encroachment due to farmland expansion and extensive grazing.

In the northern and central highlands of the country, unique forest biodiversity and valuable natural forest remnants have been preserved in ancient church and monastery grounds (Taye, 1998). For reasons related to the spiritual values attached to the churches, monasteries and their sacred lands, biodiversity islands of church forests have survived the general pressure of deforestation for fuelwood and timber that has degraded the surrounding landscape. The grounds of most of these ancient churches and monasteries contain natural forest vegetation

rich in biodiversity. Their vegetation consists not only of trees but also shrubs and herbs, and they constitute important habitats for a variety of rare vertebrate species.

Based on the census report of the Central Statistical Agency of Ethiopia (2010), about 63% of the total population of Ethiopia is identified as Christian, of which over 70% are Orthodox Christians. In an official and ecclesiastical statistics (EOTC, 2014) EOTC claims that it has nearly 40,000 parish Churches, 1,500 monasteries, over 50 million followers of whom 500,000 are clergy of varying hierarchy of ordinance. Most of the parish churches, monasteries and clergies are in central and northern highlands of the country, where more than 80% of the population belong to EOTC, and much more density of churches and monasteries are located. Through its theological teachings, the Church perceives that nature includes people, trees, animals, water, land features and the nation as a whole.

The EOTC has played, and is still playing, significant role in the social and cultural life in the Ethiopian people. Tolossa (1992) added that “there would not have been Ethiopian civilization without the Ethiopian Church. According to Archbishop Gorgorios (1986) and Tollosa (1992), the major contributions of the Ethiopian Orthodox Church to Ethiopian civilization include the fields of architecture, art, music, education, poetry, literature, law, theology, liturgy, philosophy, environment and medicine”. In general, Pankhurst (1992) concludes that, the EOTC has had a great part in influencing and shaping what is believed today to be the Ethiopian culture. From these immense contributions, its significant role for the forest and biodiversity conservation is worth of mentioning here.

To the best of my knowledge, there is no previously published works that have focused on systematic study of the overall area covered by ancient church forests, their species composition and the status of their biodiversity. Nor has there been any formal investigation of the values placed on this biodiversity by members of the church and the wider population. This information is needed in order to devise sustainable strategies for biodiversity conservation in church and monastery grounds and to project an inference to their impact on the forest conservation policy (Bekele, 2001). The teaching of the church and the conception of the people towards the church owned forests contribute for the survival and maintenance of those ancient forest remnants and biodiversity within. The Ethiopian Orthodox doctrine and tradition is entrenched on Biblical teachings of the Old Testament and New Testament, in which forest biodiversity and all natural resources are revered as God’s creation intended to get due care from human beings.

The Church further enriched by the teachings and writings of the Holy Apostles and Saints who successively maintained its biblical foundation through ages upholding the love and care towards God’s creation. The preservation and maintenance of forests and their biodiversity in the churchyards and monasteries highly related to the teaching and tradition of the Church which creates substantial impression on its followers, in particular, and nationals of the country, in general. This influence, which persuades its followers, and the nation at large,

would be valuable point to consider in the national and regional endeavours for forest conservation. Considering the influence of the Church and the conception of the people, this also could be reflected in the design of sound forest biodiversity conservation policies, and would also contribute to a more feasible and sustainable way of planning and implementation of those policies for better results.

### **1.1. Research Questions**

This research aimed at exploring the theological and traditional reasoning and practical experiences in the EOTC in the care, preservation and conservation of churchyard and monastery forests and their biodiversity. It also attempt to justify whether the teaching of, and practices in, the EOTC have relevance on the options and responses for the current problem of biodiversity degradation. In such a way, the study attempts to discern whether the Church (EOTC) could contribute to the national conservation policy and strategy.

In the course of relating the teaching and practices of EOTC to forest preservation and conservation, the study will try to answer the main research questions listed below and other ancillary issues which are raised in relation to the church and forest biodiversity conservation.

The questions are:-

1. What are the main teachings of EOTC regarding the relationship between Creator and creation, human role in environmental stewardship?
2. What are the teachings and practices relevant to forest conservation?
3. Who are the main influential figures (Saints) in EOTC who, through their teachings and practices, motivate generations in forest biodiversity conservation?
4. How teachings and practices of EOTC could be relevant to the national conservation policy and strategy?

## **2. Background**

### **2.1. Religion and Forest Conservation**

Trees are a dominant element of the human environment in most parts of the world. Religion is unique to human kind that no animal, except human beings, has have an inclination or intention to religion or sort of belief (Gobena, 1996). Religion can be explained as a set of beliefs concerning the cause, nature, and purpose of the universe, especially when considered as the creation of a superhuman power. This usually involves devotional and ritual observances, and often containing a moral code governing the conduct of human affairs and its relation to nature (Dahl, 2011). Some environmental commentators call for an abandonment of traditional beliefs and practices in order to effectively respond to the current environmental crisis; whereas, it has been evident that environmental studies have so far left unexplored the role of religion in the struggle to sustain the earth's environment for the future generations (Veda, 2007).

It is argued, and in many instances asserted, that human ecology is deeply conditioned by religious beliefs about our nature and destiny. It was not at first sight clear what environmental problems have to do with religious beliefs, until recently recognised that they have great role to play. Religious beliefs and practices are very important components of culture, which mould our attitude towards the relations with material life as well as help us to reappraise our ways towards the resources of life. Moreover, the doctrinal teachings of most religious beliefs involve the relationship between 'Creations' and 'the Creator'. All of the world's major religions are sensitive to the importance of the natural environment and they strongly figure this fact in their respective sacred scriptures (Hongmao et al, 2002; Veda, 2007).

Bergmann (2014) also compared environmentalism with a child recently learned to walk, and eco-spiritualties of different kinds to be the invisible backbone of the growth of this child. In a case study undertaken in an attempt to establish connections between traditional beliefs and conservation of biodiversity, Hongmao et al (2002) states that, "there is a growing recognition that the effective conservation of biodiversity will depend on the long-term participation and understanding of local communities". Rreligious and cultural values have close relationship with biodiversity and, consequently, their importance in biodiversity conservation has received increasing attention. The conclusion to be drawn from this is that the function of religious rituals in shaping an ecological consciousness is worth of serious consideration. In general, religion is incredibly important and relevant to the discussion of climate change, (Hongmao et al, 2002; Dahl, 2011; Veda, 2007).

## **2.2. Major Religions towards Forest Conservation**

All the major religions of the world advocate conservation of forest and its biodiversity. This is because any search for the root nature of created life perceives a vitalizing light, which is of Divinity. For all people of faith, this leads to a sense of the sacred quality to life and creation. Each faith had been able to demonstrate a clear spiritual duty that required its followers to live their lives in ways that care for the natural world. This duty is firmly rooted in sacred writings, stories and traditions as well as the interpretations of prophets, scholars and saints (ARC, 1996). All of these religions support forest conservation, and there is not one voice of religion for cutting the forests.

There are about twelve classical world religions. Those religions are most often included in history of world religion surveys and studied in world religions classes. They are stated (in alphabetical order) as: Baha'i, Buddhism, Christianity, Confucianism, Hinduism, Islam, Jainism, Judaism, Shinto, Sikhism, Taoism and Zoroastrianism.

### **1.1.1 Baha'ism<sup>1</sup>**

In the writings of Baha'u'llah (1817-1892) and the explanations of his son Abdul-Bahá (1844-1921), there are many hundreds of references to trees, mostly in a symbolic and/or metaphorical context (Dahl, 2011). Those writings are imbued with a deep respect for the natural world and for the interconnectedness of all things. Baha'i emphasize that the fruits of God's love and obedience to His commandments are dignity, nobility, and a sense of worth. According to Baha'i, forests are very important part of the natural world to be cared for and treated with compassion.

Baha'i Office of the Environment (BOE), on behalf of the Baha'i International Community, issued a statement which lists major principles guiding the Baha'i approach to conservation and sustainable development. In this statement BOE reaffirms the major teaching of Baha'i regarding nature as it reflects the qualities and attributes of God; as well as the interrelation and reciprocal prosper of creation. BOE's statement, therefore, describes that "nature reflects the qualities and attributes of God and should, therefore, be greatly respected and cherished" and also continues to explain that "all things are interconnected and flourish according to the law of reciprocity" (Elkin, 2011).

Baha'i scriptures teach that, as trustees of the planet's vast resources and biological diversity, humanity must seek to protect the "heritage of future generations"; seeing nature a reflection of the divine; approach the earth, the source of material bounties, with humility; temper its

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<sup>1</sup> The Baha'i conceive the world as reflecting the qualities and attributes of God, and they believe that it should be greatly respected and cherished. Baha'i Scriptures describe nature as an emanation of God's will. Baha'u'llah, the Prophet-founder of Baha'ism, enjoins his followers to develop a sense of world citizenship and a commitment to stewardship of the earth.



actions with moderation; and be guided by the fundamental spiritual truth of our age, the oneness of humanity (Klkin, 2011). The Bahá'í writings demonstrate wide range of symbolism using trees. In many passages, the tree represents the Prophet or Manifestation of God, or the Divine Revelation, described by Dahl (2011) as derived from the Judaic and Christian symbolism appears when referring to the burning bush or tree on Mount Sinai through which God spoke to Moses; and the references in Islam to the Tree beyond which there is no passing, as described in Muhammad's Night Journey.<sup>2</sup>

Baha'i Holy Places and Baha'i Houses of Worship are known throughout the world for their gardens. The beauty and tranquillity of these gardens, Bahai International Community (1995) claimed, inspire a deep respect for the natural world. The spiritual and administrative centres of the Baha'i World are by design situated together and surrounded by well maintained and conserved green areas. Indeed, it is this design, according to Bahai International Community (1995), which inspires reflection on the idea that spiritual development, administration of community affairs, and respect for nature are inseparable elements of all programs aimed at promoting the well-being of humanity while building a sustainable world civilization.

There is a trend that Baha'i youth from around the world, offering a year of service at the Baha'i World Centre, serve as volunteers in the Baha'i Gardens. Many of these young people have not only developed, through this work, a deeper respect for nature, but have carried back to their own communities an abiding commitment to conservation (Bahai International Community, 1995).

In addition to the terraces and gardens in and around the places of worship, the Baha'i have protected forest areas which are very important for their endemic forests and unique biodiversity. For instance, the Baha'i Interior Forest and the Baha'i Coastal Forest, which are located in Brazil and are comparable to Amazonian forest for their diversity and prevalence, are worth of refer to in this study. Bahai Interior forest and Bahai Coastal forest are described as very important ecoregions identified, by WWF (Silva, 2016a; Silva, 2016b), with scientific codes of NT0103 and NT0104 respectively, with critically endangered status of unique species endemic to the area.

The Bahia interior forests cover a large area of about 88,800 square mile, including the Brazilian states of Sergipe, Bahia, Minas Gerais, Espírito Santo, and Rio de Janeiro. It is bordered by the ecoregions of Bahia coastal forest in east, Cerrado in west, Caatinga in north and Paraná-Parnaíba in south. Although the dominant vegetation in this ecoregion is a kind of seasonal forest, at least five other types of vegetation have been reported for it, ranging from rocky savannas to evergreen forests (Silva, 2016b).

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<sup>2</sup> Exodus 3:4-6; Surah 34:15-16; Kitab-i-Aqdas, p220; Epistle to the Son of the Wolf, p47

The Bahia coastal forest covers a 150km wide strip along the Atlantic Coast of Bahia and Espirito Santo states in Brazil. Forests cover Tertiary sedimentary plateaus, limited westward by the ancient slopes of Serra da Mantiqueira Mountain Range, and northward by Itapicuru River ecoregion northward.

Forests are spread over the low elevation plateaus and the main types of vegetation are the Atlantic moist and semi-deciduous forests, four strata vegetations with emergent trees taller than 35m. The emergent and canopy layers are rich in tree species of *Leguminosae*, *Sapotaceae*, *Lecythidaceae* and *Chrysobalanaceae*. Bahia coastal forests are similar in both structure and composition to Amazonian forests, but they harbor a unique set of endemic species. Such characteristics set this ecoregion apart from other portions of the Brazilian Atlantic forest.

Bahia coastal forests have been given highest priority for biodiversity conservation because they harbor an extraordinary number of endemic species of vascular plants. Endemic species include three genera of legumes (*Brodriguesia*, *Arapatiella*, and *Harleyodendron*), four genera of *bambusoid* grasses (*Atractantha*, *Anomochloa*, *Alvimia*, and *Sucrea*), seven species of *Inga*, and the important *piçava palm*, *Atalea funifera*. Recent plant surveys in two protected areas found that 41-44% per cent of vascular plant species are endemic to Atlantic forest and that 26-28% per cent are endemic to the ecoregion. In addition to having so many endemics, Bahia coastal forests appear to contain many primitive plant species. As a result, they are considered to be the dispersal centres for some primitive groups of bamboos (Silva, 2016b).

### 1.1.2 Buddhism

Protecting life and living environment has been one of the main basic laws which were set out by the Buddha some 25 centuries ago for his students to follow (Quang, 1996). Theravada Buddhism, the Buddhist sect that studies and strictly conforms to Gautama Buddha's teaching (Dhamma), is followed by the majority of monks and lay people. Since the time of Siddhartha Gautama Buddha, the founder of the faith, Buddhist monks were encouraged to live in the forests and practice meditation (Laosuksri, 2013). Therefore, Forests have a deep and longstanding association with Buddhism, figuring prominently in the religion's lore. Gautama Buddha himself lived in the forest most of the time, and accounts of his life are rich in imagery of plants. For example, according to Buddhist traditions it is believed that where the Buddha took his first steps the lotus flower (*Nelumbo nucifera*) sprang up, he often meditated under a jambos tree (*Syzygium jambos*), his enlightenment occurred under the sacred bo tree (*Ficus religiosa*) and when he departed life the sal trees (*Shorea*) blossomed out of season (Quang, 1996; Laosuksri, 2013). It was under the Bodhi tree, Adams (2014) added, that he achieved enlightenment. Due to this belief many Bodhi trees, therefore, have become Buddhist pilgrimage sites and the forest remains an important retreat for meditation.

Buddhist monks and their monasteries are religiously respected by almost all of their lay people in their respective communities. Referring to the 2012 report from the country's Office of National Buddhism, Laosuksri (2013) states that, more than 95 per cent of the Thai population respect monks, which is the highest per capita percentage in the world. For thousand years, the Buddhist forest monasteries have manifested a harmonious living with nature, being established in the mountains, in the forests. Tranquil life in the forest helped Buddhist practitioners to improve their inner mind, and at the same time, they also worked for the protection of animals living in the area. With loving and tolerant heart, the Buddhists live with natural vegetation, wild animals in the forest in harmony and for mutual survival (Quang, 1996).

As it is in most religions of the world, in Buddhism a temple is central for the practice of religious activities, that according to its canons each village must have a temple. The existence of plants related to Buddhism (Temple Garden) is one of the four major prerequisite to be fulfilled before a temple can be established. Moreover, sacred groves of the Buddhists are some of the oldest forms of forest protection in the world. In Cambodia, for instance, Buddhist monks are protecting the nation's biggest community forest and in 2010 won the esteemed United Nations Equator Prize. Monks ordain the trees to confer protection on them (Elkin, 2011).

The Dai people in Xishuangbanna also have a close relationship with plant diversity and have played an important role in the conservation of plant diversity. Holy hill forest, for example, is the trace of the Dai's polytheistic beliefs, which is considered as the place where gods live, and all plants and animals in the forest are considered to be protected by the gods (Hongmao, et al 2002).

### **1.1.3 Confucianism**

Confucianism is a philosophy which contains profound environmental ethics through its inclusiveness of Heaven, Earth and the Human order. Confucius, founder of Confucian philosophy, was born in 551 B.C. and according to CPP (2013), perhaps is the most important philosopher in the Chinese culture. Confucianism is distinguished by its concern for the cultivation of human relations towards a harmonious society rather than one's relations with the supernatural or natural (Tianchen, 2003; Lindsay, 2012). To act according to the requirements of nature in preserving and perpetuating itself are essential commitments in Confucian ecological ethics. Confucians characteristically regards nature itself as holistic, all things in nature depending on each other and forming an organic whole.

To the Confucian mind, in general, human beings have responsibility to cultivate the environment in a way it can prosper. Environmental problem originates in the misconstruing of relations between humankind and nature. The solution may therefore begin with people understanding how to conduct such relations (Tianchen, 2003, Lindsay, 2012). The simple rule is that society's productive activities must benefit the development of the environment,

for when the environment develops so does the productivity of humans. According to historical records, Lindsay (2012) added, Emperor Yu had a clear awareness of the need for ecological protection. He gave the order that: "In Spring, wood choppers could not be used in mountain forests so that bushes and trees can grow; in summer dense fishing nets could not be used in rivers and pools so that fish and tortoises can grow".

Confucius Forest, located on the southern bank of Sihe River to the north of Qufu City, is the cemetery of Confucius and his descendants. It is the largest family mausoleum and the largest steles forest in China that has lasted the longest time since Han Dynasty in 206 B.C. up to 1949 in the time of the Republic of China. Confucius Forest along with the temple and other relics of the cemetery has been inscribed in the World Heritage list. It is not only an open-air museum involving tombs, buildings, stone carvings and steles, but also a natural botanical garden (Jinan, 2011; Miller & Yin, 2014).

The Cemetery of Mencius<sup>3</sup> is also important when we study about Confucianism and forest regeneration and protection. Mencius Cemetery forest, according to Jinan (2011), was maintained and repaired for many times during various Dynasties, and trees were widely planted, while descendants of Mencius were buried surrounding the tomb of Mencius from time to time. It has formed a Cemetery Forest covering an area about 915mu (15mu equals to 1 hectare) and it was published as National Key Cultural Relic Protection Unit.

#### **1.1.4 Daoism**

Daoism emerged on the basis of what are known as the One Hundred Schools of Thought during the period 770–221 B.C. Dao simply means “the way.” way of Heaven, Earth, and Humanity. One of the very important principles of Dao is to let everything grow according to its own course without any interference, which is termed as *wu-wei* meaning the way of no action, no selfishness. Daoism, as the indigenous religion of China, is profoundly ecological in its theoretical disposition (Miller, 2001; Palmer, 2003).

While Daoism is a powerful form of religion that has held a large influence over the spiritual and cultural development across Asian societies, it has the potential to be applied to many more uses, and to be a force for environmental conservation over the same area that it has held such spiritual influence for centuries (Naujokas, 2014).

Daoism has a unique sense of value in that it judges affluence by the number of different species. If all things in the universe grow well, then a society is a community of affluence. If

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<sup>3</sup> Mencius, also known by his birth name Meng Ke or Meng Ko, was born in the city of Zoucheng in Shandong province, thirty kilometres (eighteen miles) south of Qufu, birth place of Confucius. Influenced by Confucius and tutored by his grandson Zisi, Mencius became one of the great philosophers of China and principal interpreters of Confucianism.

not, this kingdom is on the decline. This view encourages both government and people to take good care of nature. This thought is a special contribution by Daoism to the conservation of nature and its biodiversity (Palmer, 2003).

One of the most potent applications of Daoist thought in the conservation world lies in both small and large scale forestry. Certain villages in China have been incorporating Daoist ideas such as *feng shui* into their forest cultivation strategies. These forests, known as *fengshuilin*, are preserved and maintained according to the principles of *feng shui*, and have been an extremely successful of forest conservation in rural China (Naujokas, 2014),

Daoism provides the moral and philosophical base upon which a solid commitment to cultivating a positive relationship with the natural environment can be built, whether it is between society and climate, a land manager and his forest, or some other relationship between man and the natural world (Naujokas, 2014).

There are so many examples of conservation projects aided by the Daoist environmental movements. The Qinling Declaration, signed in 2006, in which Daoist monks and nuns form ten temples with a commitment to protect the environment surrounding their sacred lands; the Eight Year plan (2010-2017) of the Third Daoist Conference of 2008, which sets forth procedures and plans for protecting China's environment; rebuilding of destroyed pilgrimage temple as a Daoist Ecology Temple and environmental workshop centres at Taibai mountain in Central China; Daoists' participation in the URI, which promotes interfaith cooperation for the healing of all living beings on Earth. The joint CDA and ARC project also discovered that the religious communities were still present on a sacred mountain in significant numbers, the protection of the environment was far better than warden protected areas. This was attributed to the active presence of the monks in the area as compared to the timely supervision of forest wardens (Guangqin, et al 2006).

### **1.1.5 Hinduism**

Hinduism is a remarkably diverse religious and cultural phenomenon, with many local and regional manifestations. Hinduism contains numerous references to the worship of the divine in nature in its scriptures namely: Vedas, Upanishads, Puranas, Sutras and its other sacred texts. Aranyani, for instance is, a goddess of the forests and the animals that dwell within them, and millions of Hindus recite Sanskrit<sup>4</sup> mantras daily to revere their rivers, mountains, trees, animals and the earth. Within this universe of beliefs, several important themes emerge. If we examine the ecological underpinning & implications of Hinduism both in principal and practice, it would be a new field of study in religion. I all the classic sacred

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<sup>4</sup> Sanskrit is the primary sacred language of Hinduism, a philosophical language in Hinduism, Jainism, Buddhism and Sikhism. It is also a literary language that was in use as a *lingua franca* in Greater India.

texts, ranging from the *RigVeda* to *Bhagavadgita* and the *Ramayana* to *Gandhian ideals*, as well as contemporary issues from forest in the epic to sacred rivers, Hinduism and ecology offers a wealth of perceptions on the way in which Hinduism and ecological issues are enmeshed (Jinan, 2011; Veda, 2012).

In Hinduism, protecting the environment is an important expression of *dharma*, which is one of the most important Hindu concepts, has been translated into English as duty, virtue, cosmic order and religion. It is the *dharma* concept which has been the driving factor towards the Hindu's nature conservation practices. A number of rural Hindu communities maintain strong communal conservation-oriented practices to protect local ecosystems such as forests and water sources not merely as "environmental" acts but rather as expressions of their *dharma* (Moro, 2014; Jinan, 2011).

The Chipko (tree-hugging) Movement is also the most widely known example of Hindu environmental leadership. The first action took place spontaneously in April 1973 and over the next five years spread to many districts of the Hill areas in Uttar Pradesh. The name of the movement comes from a word meaning 'embrace': the villagers hug the trees, saving them by interposing their bodies between them and the contractor's axes. The Chipko protests in Uttar Pradesh achieved a major victory in 1980 with a 15-year ban on green felling in the Himalayan forests of the state. Since then the movement has spread to Himachal Pradesh in the North, Karnataka in the South, Rajasthan in the West, Bihar in the East and to the Vindhyas in Central India and created a precedent all over India (Agarwal, & Sangal, 2008).

This non-violent environmental movement then went on to become a rallying point for many future environmental movements all over the world. The Chipko Movement was reinforced with a spiritual discourse based on the ancient Sanskrit scriptures and on comparative religion which stressed the unity and oneness of life and put the movement in this context (Agarwal, & Sangal, 2008).

When Bishnois are protecting animals and trees, when Swadhyayis are building *Vrikshamandiras* (tree temples) and *Nirmal Nirs* (water harvesting sites) and when Bhils are practicing their rituals in sacred groves, they indirectly protect the environment by simply expressing their reverence for creation according in line with the Hindu teachings (Jinan, 2011).

#### **1.1.6 Islam**

Environmental conservation is one of the basic tenets of Islam. The word 'tree' has been mentioned 26 times in the Qur'an, and the word "paradise" in the sense of garden around 146 times, from which its benefit to human beings can very easily be understood (Abubakar, 2015; Ozdemir, 2002). The real Islamic teachings indicate that man is not owner of natural resources but a protector and a trustee. Each man is the custodian of nature, and must live with harmony with other creatures. It is the duty of all Muslims to respect, nurture and care

for the environment. It is also believed that Prophet Mohammed, founder of Islam and Messenger of God (*Allah*), gave Muslims guidance to promote tree plantation individually and collectively. Tree plantation and protection of plants is regarded as an act of charity and source of material benefits and spiritual bliss (Ayaz, et al, 2003; Zafar, 2015).

Ayaz et al (2003) added that cutting, uprooting, wasting or even breaking a branch of any of those trees which are in the area of sanctuary is prohibited in Islam. This prohibition is expressed as it has a special significance from the point of view of protection of trees. Islam encourages and gives direction for tree plantation on the one hand, and prohibits acts causing damage to trees on the other. Abubakar (2015) claims that Prophet Mohammed had established environmentally protected areas in which felling of trees and killing of animals was prohibited. He continued to quote the word of the prophet (Quoting Hadith No 2792 as stated by Sahih Bukhari) as follows: *“I declare Madina as a sanctuary, and like Makkah, the area in between its two mountains shall be a protected area. Its trees shall not be cut, except the extent that is needed to drive camels”* (Abubakar, 2015).

In Indonesia a project intended to integrate religion within conservation and management of Sumatran forest, three interrelated land-use management systems apply Islamic principles within nature conservation. These principles *Hima* – management zones established for sustainable natural resource use; *Harim* - inviolable sanctuaries used for protecting water resources and their services; and *Ihya Al-Mawat* - reviving neglected land to become productive. These principles are reconciled into the legally recognised traditional (*nagari*) system which their implementation could involve patrols from the joint community and Department of Forest (Harrop, 2012).

### **1.1.7 Jainism**

Jainism is one of the ancient religions, which is thought to have its roots in the Indus Valley Civilization and the later Vedic Civilization<sup>5</sup>. It was firmly established in India between 9<sup>th</sup> and 6<sup>th</sup> century BC. Mahavira, also known as Vardhaman, is regarded as the person who gave Jainism its present-day form. It is believed that Mahavira was born in 599 BC, led a strict ascetic life in the forest and attained enlightenment on the bank of river Rijuvalika below a solvent tree (Singhvi, 2003; Khokhani, 2012; Kothari, 2016).

Jainism is one of the most environmentally conscious religions in the world. It is not only a religion but way of life and an art of living that, according to Kothari (2016), shows a social way to protect the environment and urges human being to cohabit affably with his or her society and the environment. Jainism is fundamentally a religion of ecology and has turned ecology into a religion. It has enabled Jains to create an environment-friendly value system

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<sup>5</sup> The period of India's history lasted from around 1500 BC through to 500 BC in which intense philosophical deliberations exhibited on the Indian subcontinent.

and code of conduct. Because of the insistence on rationality in the Jain tradition, Jains are always ready and willing to look positively and with enthusiasm upon environmental causes. In India and abroad, Jains are in the forefront of bringing greater awareness and putting into practice their cardinal principles on ecology (Singhvi, 2003). Jain Laymen and women (households) are preached to minimize their *Bhoga* (Consumables). The seventh vow (*Bhogopbhog Pariman*) restricts them from unlimited consuming of natural resources. Those who truly follow this vow are restricted to act against environment in several ways. They limit their ambitions voluntarily and do not enter into a business or profession that damages environment severely. Soaking water resources, cutting and firing a green forest, mining etc are not allowed for observers of this vow (Kothari, 2016).

Jain *Agamas* (Canons/Holy Books) are very conscious about preserving the environment. Their sacred texts have large volumes that point to the environment. Bhagchandra Jain, a renowned scholar in Jainism, consults a wide range of Jain literature from both the Svetambara and Digambara schools to compile a masterful argument for the respect of all life-forms (Kothari, 2016; Chapple, 2002). He is said to note that the extensive literature within Jainism devoted to forest protection and emphasizes the ecological aspects of behaviour recommended for Jain laypersons. Satish Kumar, founder and educational director of Schumacher College in England, quoted by Chapple (2002), relates Jainism's concept of ecology to strict vegetarianism, pilgrimages to sacred mountains, constant observance of bare footedness, minimization of possessions, conservation of water and close adherence to an ethical code grounded in nonviolence.

Jainism is based on the principal of *Ahimsa* (non-violence) which is the fundamental vow and runs through the Jain tradition like a golden thread. It involves avoidance of violence in any form, not only to human beings but also to all nature. All living beings are regarded as equal. To kill a living being is considered to be the greatest of sins. Jainism also stresses on the moral responsibility of the humans in their mutual dealings and relationships with the rest of the universe (Singhvi, 2003; Khokhani, 2012).

Jain *Dadabadi*, a type of shrine usually located near a Jain temple, is true protector of Environment. *Badi* means garden or urban forest that is derived from Sanskrit word *Vatika*. In fact, these are botanical gardens or mini forests along with a Jain temple. There are hundreds of trees in most of the *Dadabadis*. These are acting as urban forests presently. There are flower plants, fruit trees, decorative trees, medicinal trees and herbal plants in *Dadabadi* (Kothari, 2016).



### 1.1.8 Judaism<sup>6</sup>

Jewish Scriptures and tradition trace back to the dawn of human society where it narrates that the first man Adam was placed in the garden "to till it and to care for it", and to "rule over the fishes of the sea and the birds of the sky and all living things that move on the earth"<sup>7</sup>. When the Torah commands human beings to "rule over all living things", Rabbi A.I. Kook said as quoted by Jewish Virtual Library (2016), it does not have in mind a cruel ruler who exploits his people and servants for his own will and desires. The words "Be fertile and increase, fill the earth, master it; and rule... the earth" (Gen. 1:28) sting when they are misinterpreted to justify plundering the environment without regard for the consequences.

The principal philosophical underpinning in Judaism is found in Genesis, where humans are put in the Garden of Eden to be "stewards" of the Earth to work it and to protect it. There is a notion of responsibility, that the human is responsible for the wellbeing of the Earth. Both the Bible and the Mishnah<sup>8</sup> provide environmental legislation and the Jewish nation in Israel felt an eternal bond to the Land of Israel, and therefore a responsibility to protect their environment (Halpert, 2012; Freeman, 2016). Judaism demands respect for the environment. Such eco-reverence as explained by Rabbi Stephen Pearce, quoted by National Religious Coalition on Creation Care (2009), is best characterized by God's word "The land is Mine, you are My tenants" (Lev. 25:23). As such, we have a responsibility to protect rather than exploit the earth's riches.

Within Judaism, traditional religious beliefs and practices do not conflict with modern, scientifically sound environmental practices. In fact, traditional Judaism espouses philosophies and practices that coincide remarkably well with those prescribed by the modern environmental viewpoint (Veda, 2007). In Jewish tradition, one of the metaphors for God is the Tree of Life. Jews celebrate a midwinter festival that is the "new year for trees," when their life-juices stir once more and they begin to renew themselves from wintry near-death. That festival is also understood as the "New Year of The Tree" the time when God's abundance reawakens in the world. Since the forests are a direct expression of God's bounty, one has to save these forests now when they are dying in what could become a universal winter (National Religious Coalition on Creation Care, 2009).

Central to the Jewish treatment of deforestation is the principle of *bal tashit* which is a Hebrew term meaning "thou shalt not destroy". The origins term is in the Bible (Deut.

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<sup>6</sup> Judaism is among the oldest surviving world religions, tracing its roots back some 4,000 years to Abraham the Semite, described biblically as the father of the Hebrew people, and 3,300 years ago to Moses, who brought forth the covenant (Torah) between the Jews and their God (Hunter, 2014).

<sup>7</sup> Genesis 2:15, Genesis 2:26

<sup>8</sup> Mishnah is the first major written redaction of the Jewish oral traditions known as the "Oral Torah". It is also the first major work of Rabbinic literature. The Mishnah was redacted by Judah the Prince at the beginning of the third century CE.

20:19)<sup>9</sup>. This injunction refers specifically to cutting down trees when waging war against enemies. Post-Biblical Hebrew tradition also refers the term *bal tashit* to be found in the Talmud and is applied to “numerous non-military situations.” Judaism's opposition to the wanton destruction of the environment holds that creation is an ongoing process in which God and humans are co-partners in safeguarding the earth's riches (Hunter, 2014; JVL, 2016).

Halpert (2012) describes that some of the environmental legislation of the Torah are ‘a city to have a greenbelt surrounding it, which limits urban sprawl’, ‘a fruit tree could not be destroyed when setting siege to a city (which is extended to forbid any wanton destruction of nature that could be avoided’, ‘Severe limit imposed by Rabbis on grazing of goats and sheep in parts of Israel where they caused environmental damage’, ‘King Solomon’s appointment of a minister to limit the harvesting of wood in the forests of Israel’, and ‘the Mishnah’s laws dealing with water and air pollution.

Israel's forests--grown from technology, sacrifice, and Jewish ideal--, Hunter (2014) claims, stand in miraculous contrast to the deforestation happening worldwide. . Jewish National Fund (2016) further claims that, “Israel is one of only two countries in the world that entered the 21st century with a net gain in its number of trees”. However, the Fund confessed that Israel was not blessed with natural forests; and almost all its forests are exotic and hand-planted. There are dozens of organizations set up to address Jewish efforts on the environment, both in the U.S. and around the world, especially in Israel. They address issues ranging from the greening of synagogues, to Jewish environmental education, organic farming, and the like. JNF is one of these organizations which claims that it planted more than 240 million trees all over the State of Israel, providing luscious belts of green covering more than 250,000 acres, since it has been established in 1901 (Halpert, 2012; Hunter, 2014; JNF, 2016).

With a direct link to nature and the environment, Judaism is founded on the basis of an agrarian society, and many Jewish festivals are agricultural celebrations. The main festivals are the Pesach (Passover), Shavuot (Pentecost), and Succot (Tabernacles). Jewish religious schools and synagogue adult education units have begun emphasizing forestation and environmental topics, linking these issues to the religious festivals; as well as the special tree-planting day of *Tu B'shevat*, always a favourite with Jewish children (Halpert, 2012, Hunter, 2014).

### 1.1.9 Shintoism

Shinto is one of the world’s major religions but does not have religious or doctrinal teachings. It is a wisdom rooted in traditional practice, rather than doctrine from a sacred text. Moreover,

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<sup>9</sup> "When thou shalt besiege a city a long time, in making war against it to take it, thou shalt not destroy the trees thereof by forcing an axe against them: for thou mayest eat of them, and thou shalt not cut them down (for the tree of the field [is] man's [life] to employ [them] in the siege." (Deuteronomy 20:19)

it is not evangelical, and its rituals and practice are meant only for Japan, not other countries. This makes it very different from Buddhism, Christianity and similar doctrinal religions (Alliance of Religions and Conservation, 2005). Shinto tradition acknowledges a deep debt to the blessing of nature and the spiritual power which brings about life, fertility, and prosperity. Mountains peaks, deep valleys, and the wide ocean were viewed as dwellings for the divine, and other natural objects such as evergreen trees and huge rocks were considered to be symbols of divine spirits (ARC, 2009).

The *chinju no mori* or sacred groves around Shinto shrines are revered as the dwelling place of the *kami* spirits. However, it is the *kami* which are worshipped, not the trees. It is the forests, and not the buildings, that mark the true shrines of Shintoism. The *chinju no mori* are, therefore, not only shrines, but also forest management sites. They, over the centuries, have evoked the mutual relationship between *kami* and the human community: the *kami* protecting the community; and the community protecting the *kami* by preserving the forest habitat. In recent years, Shinto's symbiotic relationship to nature has attracted widespread attention, influencing ways in which the tradition is presented and understood by scholars, priests and laypeople alike. This relationship is embodied by *chinju no mori* which have come to possess significant symbolic, ecological and social capital (Alliance of Religions and Conservation, 2005; Rots, 2013 & 2015).

#### **1.1.10 Sikhism**

The founder of the Sikh religion was *Guru* (spiritual teachers) Nanak who was born in 1469, who preached initially Hindus and Muslims and followed by nine successive *Gurus*. Sikhism believes that God resides in the creation. One of the most prominent *Gurus Sri Guru Granth Ji* taught that God resides in creation in which he explained God as *Karta-Purukh* (the resident-creator) of the universe (Kaur, 2014). There have been traditional practices that maintained lands and forests as community property within proximity of human habitation. This was where there were trees and plants, such as groves or small forests. They provided shade and shelter, and were a source of firewood within easy reach of habitation (Palmer & Finlay, 2003).

Historically, many of the *Gurudwaras* (place of worship for Sikhs) have been named after trees like *Gurudwara Amb Sahib*. Forest cover in Punjab, where majority of Sikhs live, is far better as compared to States in India (Singh, 2014). *Guru Har Rai Ji* (1630- 1661 AD), the seventh *Guru* of the Sikhs, was gentle and cared for the environment who had shown compassion plants. He was blessed with *Guruship* on the 3<sup>rd</sup> of March 1644, and the Sikhs celebrate this day, globally, as the Environment Day (Kaur, 2014). The tenth *Guru*, Gobind Singhji, also founded the town of Paonta Sahib surrounded by Sal forests and on the banks of river Yamuna. He stayed in this forest more than four years.

### **1.1.11 Zoroastrianism**

The Zoroastrian religion dates from its prophet Zarathustra lived around 600 BC, some argue far earlier, who is believed to be the author of the core texts of the Avesta, the main source of Zoroastrian teachings. Zoroastrian was the state religion of the Persia, now-a-days Iran, and its Kingdom. One has to put into perspective the origins Zoroastrianism itself to understand the significance of conservation and the environment in the religion. The As the oldest religion, it came about at a time and a place in the world history when mankind lived a life of direct dependence on nature both for both spiritual and physical needs (Palmer & Finlay, 2003; Shroff, 2007).

The key element of the Zoroastrian religion is the emphasis on affirming life-giving forces. The Zoroastrian religion requires the reverence of the elements of nature. Plants and green-life, Shroff (2007) added, are the very symbol of a new beginning, a new life. Hence, one of the basic injunctions of the faith is to keep Earth fertile and unsullied, to encourage Plants and trees to healthy growth. In Zoroastrianism death is seen as a temporary triumph of evil and the corpse is also seen as being afflicted or polluted by the evil.

Therefore, dead body is neither interred nor burned, nor cast in the sea, but is exposed to the elements and birds of prey in a roofless stone tower named as Tower of Silence. The vast compounds encompassing these Towers have been forest reserves where forest biodiversity are left for natural regeneration. This reverence to plants is attributed to Zarathustra's teachings which, were particularly focused on proper care for trees, forests and other natural resources. To this end, it is believed that, under the influence of Zoroastrian faith Persian kings established the world's first forestry administration and nature reserve. The wider influence of Zarathustra on nature and forest conservation may not be visible in the modern world, where Zoroastrianism has widely been substituted by Islam. Nonetheless, in description, some cultural practices are still visible, such as an annual tree planting week that takes place in today's Iran (Yachkaschi & Ali, 2012).

## **2.3. Christianity and Forest Conservation**

For Christians and Jews alike the biblical story of human interaction with the world begins with God's commands regarding two trees. The first things which the first people found in the Garden were two trees. The way those first people responded reflected their relationship to their Creator and their fidelity to the commands given to them.

Christian view of forest conservation is established on the Biblical basis for creation care, which reflects the concept God made everything<sup>10</sup>, God made everything very good<sup>11</sup>, God

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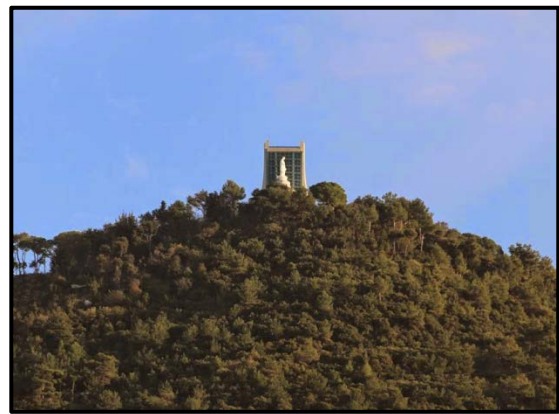
<sup>10</sup> Genesis 1:1; John 1:3; Colossians 1:16

<sup>11</sup> Genesis 1:31; Psalm 8:3

has made people in His own image and likeness and ordered them to cultivate and protect His creation<sup>12</sup>. Therefore, Stuart (2011) reasons, forest conservation is integral to biblical Christianity, and caring for God's Creation is an integral part of Christian calling.

According to Christian environmental teaching, human beings are stewards of God's creation which have been designed with divine architecture. "O Lord, how manifold are Your works! In wisdom You have made them all. The earth is full of Your creations" (Psalms 104:24). Likewise the trees and forests are created and nurtured by God Who is praised as "The trees of the Lord are well watered, the cedars of Lebanon that he planted. There the birds make their nests; the stork has its home in the pine trees..." (104:16-18).

The Bible says that "The Lord has made all kinds of trees grow out of the ground, trees that were pleasing to eye and good for food" (Genesis 2:9). Forests, therefore, are more than trees and are complex biological systems that provide far more to human society than mere fruits for food, timber for building or pulp for paper. On the basis of textual prominence alone, the tree is the most important non-human organism in Scripture.



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<sup>12</sup> Genesis 1:27; Genesis 2:15

[From top left top clockwise] Christian inspired forest sites: The Yanbaru forest (in northern Okinawa, Japan), the Harrisa Forest (Beirut, Lebanon), St Seraphim of Sarov and St Francis of Assisi.

While trees are used in a variety of ways, the tree is particularly used to symbolize the blessings that God bestows upon humans through creation. Conversely the destruction of trees in Scripture is a sign of God's wrath and punishment for all transgressions of the order of nature and spirit. Throughout Scripture, trees are the biblical emblem of creation (Davidson, et al 2000).

The Bible commands us to creation care and forest protection from Genesis, the first book, to the Revelation, apparently the last book. The Book of Genesis opens the Bible with the story of creation. The Holy Bible in the Book of Revelation is strong in its language on the forests that it demands us to "Hurt not the earth, neither the seas nor the trees" (Revelation 7:3). Because we are created in the image of God and given responsibility to act toward creation as He commands, we must take a lesson and also plan for future generations. Therefore, it is unjust to deprive future generations of the experience and benefits of healthy forest ecosystems for current short-sighted exploitive practices. Just as the Earth is the Lord's, so are all the creatures and systems in it. The forests belong first to God. We are to steward the earth and the forests. The quality of our stewardship affects the quality of our lives. The creatures of the forest speak to us of God (Job 12:7-10) and they are given to us by God to direct our attention toward our God. A depreciated forest cannot fulfil God's intent for it, and our degradation of it insults God (National Religious Coalition on Creation Care, 2009).

In addition to their individual teachings and practices, the above mentioned major religions of the world create an 'Alliance of Religions and Conservation' (ARC) that helps them scale up environmental programs based on their core teachings, beliefs, and practices. ARC works with all the eleven major religions stated above and also intensifies cooperation with key denominations or traditions within each. ARC also plays pivotal role in creating links between religions and key environmental organizations, facilitating powerful alliances between faith and/or religious communities and conservation groups. There are also coalitions of religious and environmental groups at national, regional and continental levels. For instance, there are national Inter-Religious consortia to tackle environmental problems and work together for better environmental management. In the USA, for instance, Judaism and Christianity are united with Native American religions, with Buddhism, Hinduism, Islam and all the other major religions of the world in declaring that the nation's forests should be protected, especially community forests and national forests (ARC, 1996).

### 3. Materials and methods

#### 3.1. Materials

The preservation and maintenance of forests and their biodiversity in the churchyards and monasteries highly related to the teaching and tradition of the Church which creates substantial impression on its followers, in particular, and nationals of the country, in general. The teaching of the church contributes for the survival and maintenance of those ancient forest remnants and biodiversity within. The Holy Bible is core for Christian teaching. Faith and order of EOTC, like that of the other Christian churches, has been stemmed from the teachings revealed in the books of the Holy Bible, the Old and the New Testament.

The Ethiopian Orthodox doctrine, written and oral traditions and practices anticipate their origins from the Biblical teachings of the OT and NT, in which forest biodiversity and all natural resources are revered as God's creation, and need due care from human beings. The Church further enriched by the teachings and writings of the Holy Apostles, Martyrs and Saints who successively maintained the Biblical foundation through ages upholding the love and care towards God's creation. The saints impart their teachings and practices, including the tradition related to forest biodiversity conservation, in their respected parish churches and monasteries.

The Ethiopian Orthodox Tewahedo *Church* is one of the oldest churches in the world, belongs to, and in communion with, the Oriental Orthodox Churches<sup>13</sup>. The Church the anticipates its foundation back in the first century (34 AD) in connection with the Biblical account<sup>14</sup> of the Ethiopian Eunuch<sup>15</sup>, who brought the Good News to Ethiopia and spread it in the royal court. It is also believed that Judaic faith and Hebraic traditions have been practiced from about 1000 BC until the advent of Christianity, which is connected to the story of the visit<sup>16</sup> of the Queen of Sheba, the 52<sup>nd</sup> in the royal monarch of the Axumite Kingdom, to King Solomon of Israel and introduce the Judaic faith and practice to Ethiopia. This is witnessed through the existence of Judaic elements in the rites and worship of the Church, which account to the uniqueness of EOTC.

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<sup>13</sup> The Oriental Orthodox Churches are known as Non-Chalcedonian Churches for their rejection of the Council of Chalcedon (451); Ante-Chalcedonian Churches for their acceptance of the first three ecumenical councils (Nicaea-325, Constantinople-381, and Ephesus-431) only. The Oriental Orthodox Churches include the autocephal churches of Ethiopian Orthodox Tewahedo Church, Coptic Orthodox Church, Syrian Orthodox Church, Armenian Orthodox Church, Indian Malankara Orthodox Church and Eritrean Orthodox Tewahedo Church.

<sup>14</sup> Acts of the Apostles 8:26-40

<sup>15</sup> The Ethiopian Eunuch is regarded, by Jerome, as the first fruit of Christianity from non-Jew, and also praised, by Eusebius of Caesarea, to become an 'apostle of his people'. The Eunuch, his way back home, after taking part in the Judaic feasts in Jerusalem, was met by St Philip (one of the earliest evangelists) heard of the Good news, tutored, baptised and returned home inspired with Christianity.

<sup>16</sup> 1 Kings 10:13; Matthew 12:42

Though the news of Christianity was brought by the Eunuch, the full-fledged establishment of the Church, however, was achieved through the apostolic service of St Frumentius in the 4th century AD. Ordination and sacred sacraments were started when St Frumentius was consecrated<sup>17</sup> as the first bishop of Axum, and all Ethiopia, and called by the name Aba Selama (Father of Peace) the Illuminator. Aba Selama succeeded to convince the then Kings of Axum (Aezana & Saezana) to establish the Church as an Official/State Church of the Kingdom. The arrival of the Nine Saints<sup>18</sup> about 479 AD marked the establishment of Christian monastic life, which enabled monasteries to be great centres of theological knowledge. Since then, monasteries became not only centres of ecclesiastical studies but also repositories of age old literary, art, architectural and environmental heritages.

Since the consorted evangelical and sacramental services of Aba Selama, the Nine Saints and Saint Yared operated in the Church for a century, EOTC significantly influence not only the religious but also the socio-cultural and political life of the country and, through its immense contributions, shaped what is believed today to be the Ethiopian culture. Especially monasteries became major sources of trained clergy to fill ranks of the Church, and centre of excellence to train royal officials and civil servants to fill the monarch. Comparing Orthodox Christians in Central and Eastern Europe, US and Ethiopia; PRC (2017) describes that, Ethiopian Orthodox community is highly observant. According to the survey almost all or 98% of Ethiopian Orthodox Christians say religion is ‘very important’ in their lives, 78% say they attend church on a weekly basis, and 65% say they pray daily; which is the highest percentage as compared with that of the other Orthodox Christians in Central and east European countries and the US.

Most Orthodox Christians share the view that the environment should be protected even at the expense of economic growth. Orthodox majorities agree with the statement, “*We should protect our natural environment for future generations, even if this reduces economic growth.*” The reason why Orthodox Christians in Central and Eastern Europe widely favour protecting the natural environment for future generations may be a reflection of the environmentalist stance of Patriarch Bartholomew of Constantinople, the Ecumenical Patriarch who is considered a theological authority in Eastern Orthodoxy, regarded as the “the Green Patriarch”. Orthodox Christians in Ethiopia are especially conservative on social issues. In answers to a series of questions, though environmental issues were not raised in this survey, on the morality of specific behaviours Ethiopian Orthodox Christians are more likely stricter than Orthodox Christians in most other countries surveyed (PRC, 2017).

Monasteries also play significant role in preserving rare species of ancient forest remnants which were once forest stands covered the country; but now extinct due to successive and

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<sup>17</sup> By St Athanasius, the 20<sup>th</sup> Pope and Patriarch of Alexandria (328-373 AD)

<sup>18</sup> Nine monks from the Byzantine Empire who fled persecutions arise due to the Christological dispute following the controversial Council of Chalcedon (451 AD)



indiscriminate deforestation. They are also serving as seed banks and reference for reforestation. The saints impart their teachings and practices, including the tradition related to forest biodiversity conservation, in their respected parish churches and monasteries.

The possible reasons why EOTC achieved the conservation of forest biodiversity can be expressed as:-

- ❖ Churchyards and monastery compounds are regarded as place of meditation and prayers, with very little or no other activities which may distract prayers and meditation. The Saints preferred to live solitary life in the wilderness of monasteries as an anchorite, hermit or coenobite. Melchizedek, Moses, Elijah can be referred from the pre-Christian or Old Testament times; and St John the Baptist, St Anthony, St Simon the Stylite from the Christian or New Testament ascetics.
- ❖ Churchyards and monastery compounds are analogous to the Bible's Garden of Eden, sanctuary of life, in the mind of most Ethiopian Orthodox Christians. Anything within the churchyard and monastery compound is to be kept as it is and not to be altered. Such sanctuary thinking of the church is so dominant tradition any tree or shrub is to be kept untouched and left to grow and multiply, and when it dies for various reasons, it will be left to decompose. This has been one of the most important reasons accounted for the preservation and conservation of ancient forests of indigenous species.
- ❖ Due to the religious and social responsibilities of EOTC to the nation, which is developed through centuries of intertwined relationship between the Church and the nation, the Church, hence, is considered as the custodian of the country's very important heritages including the environmental. Moreover, the Church is aware of this expectation from the community, and the clergy or ecclesiastical officials always consider themselves as responsible not only to the faith but also the social-cultural matters of the society; and act in line with this expectations.

### **3.2. Methods**

Obviously for a research there is a choice between qualitative and quantitative methods, or use of both/dual methodology. This research is based on qualitative methods for data collection and analysis.

A material posted by University of Surrey (2015) regarding research methods explains that qualitative research data is used to develop concepts and theories that help us to understand the social world - which is an inductive approach to the development of theory, rather than a deductive approach that quantitative research takes – i.e. testing theories that have already been proposed (). Qualitative research methods are concerned with opinions, feelings and experiences. It describes social phenomena as they occur naturally. In this method no attempt is made to manipulate the situation rather it focuses in just understand and describe

phenomenon. In a qualitative research understanding is sought by taking a holistic perspective or approach, rather than looking at a set of variables.

Qualitative data is collected through direct encounters i.e. through interview or observation. It is rather time consuming and this makes qualitative research more expensive. Because of this fact in qualitative method data is usually collected from a smaller sample and tend to represent the wider research area. The information or data is relatively richer and has a deeper insight into the phenomenon under study.

The main ways of collecting qualitative data are: Individual interviews, focus groups, observations, action research, and the like. In the case of this specific research general observation is the main source of data. The researcher went and made observation of forest and biodiversity in the selected churches and monasteries. The data collected via observation has been used in conjunction with interviews with monks and nuns of monasteries, parish priests and the lay congregation as well as the local community in the vicinity of the parish churches and monasteries. The data collected through observation and interviews was triangulated and further explained using various publications on the teaching and tradition of EOTC regarding nature conservation as well as parochial or monastic records, case studies, reports on forest biodiversity of the parish churches and monasteries.

This research aimed at exploring the theological and traditional implications of EOTC in preservation and conservation church and monastery forest biodiversity. It also examine if the teaching and tradition of EOTC could have relevance on the options and responses for the current problem of biodiversity degradation, and discern if it could contribute for the national conservation policy and strategy. In order to acquire the data with regard to the research objectives, primary as well as secondary data were employed. Data for this study was drawn from personal observation, a series of discussions and reviewing of relevant theological, historical and environmental records as well as researches and policy documents. The personal observation was conducted during my service the parish churches and monasteries which have been focus of this research.

I used to serve in the Diocese of Hararghie, where the monastery of St Aba Samuel of Debre Wagag (Asebot Monastery) is part of it. I had a chance to regularly visit and stay for months within the monastery, study the hagiography of St Aba Samuel of Wagag, review literary works regarding the Saint and the Monastery: such as the Book of Acts of Aba Samuel of Wagag (*Gedle Aba Samuel of Wagag*) and history of Asebot (Debre Wagag) Monastery. While I was studying in the Theological College in Addis Ababa, I also had a chance to regularly visit the Monastery of Debre Ziquala (75km from Addis) and review the literary works regarding the monastery and St Aba Gebre Menfes Kidus: such as the Book of Acts of St Abune Gebre Menfes Kidus (*Gedle Aba Gebre Menfes Kidus*) and also to explore the forests within the monastery compound and around a crater lake where the Saint is believed to conduct continuous and rigorous prayers and supplication. I also had a good deal of chance to

visit Debre Zamada and Abune Yoseph monasteries while I was working in rural development projects as they were near to my office at the town of Lalibela. In this time I made frequent visit and observation to the monastery of Debre Zamada, established by St Aba Bartholomewos, and the monastery/church of Abune Yoseph, established by St Abune Yoseph; and have reviewed the literary works related to the acts and miracles of the Saints Abune Bartholomewos and Abune Yoseph and read the history of the monasteries.

In all my stays and visits I have conducted series of discussions with the Abbots of the monasteries, church scholars and the monastic community (monks and nuns) regarding the role of the teaching and practices of EOTC in preserving the ancient forest biodiversity intact within challenging environment, i.e. surrounded by highly deforested and depleted grounds of the rural settlements. My respondents justify in almost similar manner that the teaching and practices of EOTC coined with traditions attributed to local Saints and their respective monasteries and parish churches contribute for the preservation and continuation of church forests. My respondents from all the monasteries and parish churches support their claims with literary works regarding the Saints and their monasteries (such as hagiographies, books of acts, monastic histories etc.). The monastic community and clergy of parish churches were cooperative to allow me for free observations in and around the monasteries and parish churches. They were also so supportive and made all the relevant literary works, theological and historical records, available for my review. This was possible mostly due to my intimacy to the monasteries and parish churches through my clerical and theological services.

My upbringing, from very childhood, and long service within EOTC in various capacities in many parishes and dioceses was a great opportunity and facility for me to physically visit most of the churches and monasteries, which in turn, paved the way for me to observe and understand how churches and monasteries conserved ancient and indigenous remnants of forest biodiversity. In addition to this, my work as Coordinator of Integrated Rural Development Projects (IRDPs), run by EOC-DICAC, preceded with both modern theological study at Holy Trinity Theological College (HTTC) and environmental studies at Assebe Teferi Agro-Tech College (currently Oda Bultum University) and Awassa University, enlighten my awareness on the possible reasons why EOTC parish churches and monasteries became hotspots of forest biodiversity.

My work in the Integrated Rural Development Projects (IRDPs) of the Development and Inter-Church Aid Commission in the Ethiopian Orthodox Tewahedo Church privileged me with the resources and access to most of the churches and monasteries and enables not only to physically visit churches and monasteries, including those which are focuses of this study, but also to review ancient manuscripts, historical records and monuments, as well as discuss with monks and nuns, priests and ecclesiastical officers. It also gave me the opportunity to discuss with forest conservation experts working in the local GOs and NGOs, and even with local community members. In the course of this acquaintance I come to realise the connection

between theological teaching EOTC and traditional practices of local parishes and monasteries with the forest biodiversity development in and around churches and monasteries.

My study in the SUFONAMA program, at George August University of Gottingen and South Swedish Forest Research Centre (SLU), further equipped me with the systematic approaches and assisted me to collate and organise data and information already gathered through serious of observations and discussions. My study also helped me to re-examine my experience in an objective manner fit to graduate research, and easily relocate the already accessed books and records. In this respect, I re-examine books related to monasteries and churches of focus in this study with special focus on the Acts/Biographies (of St Yared, St Gebre Menfes Qidus of Ziquala, St Berthelomeos of Zemedra, St Yoseph of Lasta, St. Samuel of Waldiba and St Abune Samuel of Wegeg).

From the national policy papers I reviewed a workshop report published by Environmental Economics Policy Forum for Ethiopia (EEPFE) and the Ethiopian Development Research Institute (EDRI) of the Government of Ethiopia (2008) entitled ***“Policies to Increase Forest Cover in Ethiopia proceedings of a Policy Workshop”***; a ***“National Biodiversity Strategy and Action Plan”*** published by the Institute of Biodiversity Conservation (2008); the third and fifth national reports on ***“Convention on Biological Diversity”*** published by the Ethiopian Biodiversity Institute (2012 & 2014); assessment reports published by Organization for Social Science Research in Eastern and Southern Africa - OSSREA (2008) under the title ***“Environmental Management in Ethiopia: Have The National Conservation Plans Worked?”*** and by USAID (2008) under the title ***“Ethiopia: Biodiversity and Tropical Forests 118/119 Assessment”***.

It was preferable if the study integrates a survey of forest biodiversity in and around monasteries, and if it examines how these forest biodiversity resources preserved in contrast to the severe depletion of the surrounding environment. Due to geographical disparity, financial and time constraints I couldn't conduct physical survey and recent observation at the churches and monasteries selected for this study. However, as the study focuses on the relevance of teachings and practices of EOTC for forest biodiversity conservation, the teachings and traditions are not likely to be changed in within the past decade from the time I was able to access the churches and monasteries for services and developmental works. Though there may be a change in the forest density or area coverage, it is obvious that there will not be drastic change to change the relevance of EOTC's teaching and practices in conserving forest biodiversity in and around churches and monasteries.

Taking all the above in to account I make analysis on the possible responses of EOTC for the extensive degradation of forest resources through its theology, tradition and practices. Particular attention has been paid to the role the EOTC played, and still to play, in the national conservation policy.

## 4. Finding and Discussion

### 4.1. Teaching and Practices Relevant for Forest and Biodiversity Conservation

#### 4.1.1. Biblical and Ethical Foundation of Stewardship

The Holy Bible is the core for Christian teaching. Faith and order of the Ethiopian Orthodox Tewahedo Church, like that of the other Christian churches, been stemmed from the books of the Holy Bible, the Old Testament (OT) and the New Testament (NT). All the written and oral traditions and practices in the Church, therefore, anticipate their origins back to the phrases of the Bible and their exegesis. Teachings and practices of the Church, directly or indirectly, sourced from, and influenced and backed by, or related to the Holy Bible.

Trees are in the background and in the foreground of the Bible. Throughout the Bible, from the beginning of the Book of Genesis up to the last chapter of the Book of Revelation, trees assume critical part of actions. A tree was connected with man's very existence in the Garden of Eden<sup>19</sup> it undertakes a very great very importance in the life of mankind. In the Garden of Eden, Adam and Eve ate the forbidden fruit of the tree of knowledge of good and evil<sup>20</sup>. Another tree played a key role in the price of man's sin. At Calvary, the Lord Jesus Christ died by crucifixion upon a tree.<sup>21</sup> Over thirty varieties of trees are cited in the Bible. For example, the Tree of Life is mentioned early in the Genesis and also in the last chapter of Revelation. Each tree brings its own blessing to us. Not only do trees provide food, medicine, shade, shelter, and other useful items for our lives but many useful images and metaphors to learn from. Hence the admonition for us to be a tree that bears good fruit. In the case of fruitlessness, to be rooted or that if we will be righteous we will "grow like a Cedar of Lebanon" (Psalms 92:12). There are of course many other Biblical examples of this type, e.g. the cedar became a temple, the fig a covering, and the gopher an ark (Allison, 2011; Athena, 2016).

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<sup>19</sup> Ethiopian tradition maintains the Biblical story regarding the second of the four rivers, which waters the Garden of Eden. It is widely believed that Gihon is Biblical/classical name of **The Nile (Abbay)**, runs across ten countries from Eastern and South Eastern Africa all the way to Mediterranean Sea, and more than 87% of its waters sourced from highlands of Ethiopia. Based on the Biblical passage "the name of the second river is the Gihon; it winds through the entire land of Ethiopia" (Genesis 2:13), the Ethiopian Church believes and teaches that the River from its land is one of the four important Rivers which water the Garden of Life.

<sup>20</sup> Genesis 3:1-6

<sup>21</sup> 1 Peter 3:24

Citing from the Bible<sup>22</sup>, Beisner (2000) states that God is the Creator of all things. The earth and all the cosmos reveal its Creator's wisdom and goodness and is sustained and governed by his power and loving-kindness. Men and women were created in the image of God, given a privileged place among creatures, and commanded to exercise stewardship over the earth. Fundamental to a properly Christian environmental ethic are the Creator-creature distinction and the doctrine of humankind's creation in the image of God.

Some environmentalists divinize the earth and insist on "biological egalitarianism," the equal value and rights of all life forms, in the mistaken notion. They reject human stewardship as "anthropocentric" and instead promote a "biocentric" alternative. This philosophy negates the biblical affirmation of the human person's unique role as steward and eliminates the very rationale for human care for creation. Human beings, alone among creatures on earth, have both the rationality and the moral capacity to exercise stewardship, to be accountable for their choices, to take responsibility for caring not only for themselves but also for other creatures. To reject human stewardship is to embrace, by default, no stewardship. The quest for the humane treatment of beasts by lowering people to the level of animals leads only to the beastly treatment of humans and suffer from lack of leadership (Beisner, 2000; Evans, 2012).

There are, however, grave concerns of human stewardship as there are instances of irresponsible and selfish utilitarian approach from human beings. The only proper alternative to selfish anthropocentrism is not biocentrism but 'theocentrism', which is a vision of earth care with God and His perfect moral law at the centre and human beings acting as His accountable stewards (Flores & Clark, 2000; Beisner, 2000). Human stewardship under God, therefore, implies that human beings are morally accountable to God for treating creation in a manner that best serves the objectives of the kingdom of God. Stewardship requires humanity to act in an arena of considerable freedom exercised within the boundaries of God's moral law as revealed in the Scriptures; and it is not in any meaning of the term unrestricted license.

Apart from the anthropocentrism and biocentrism debate there is also argument that states human beings lose their dominion over and stewardship of nature due to sin and fall. Francis Bacon, for instance, argues that "man by the Fall fell at the same time from his state of innocence and from his dominion over creation. "Both of these losses can even in this life be in some parts repaired; the former by religion and faith, the latter by the arts and sciences" (Bennett, 2015). However, the facts of human sinfulness and fall, according to the Bible<sup>23</sup>, rather brought God's response. God's response first was revealed in judgment, subjecting humankind to death and separation from God; and then subjecting creation to the curse of futility and corruption. Though sin makes it difficult for humans to exercise Godly

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<sup>22</sup> Psalms 103:19-22; 19:1-6; 102:25-27; Colossians 1:17; Hebrew 1:3, 10-12; Genesis 1:26-28; Psalms 8:5

<sup>23</sup> Genesis 2:17; 3: 17-24; Romans 5:11-12-14; 6:23; 8:20-21; 15-21; 2 Corinthians 5:17-21; Ephesians 2:14-17; Colossians 1:19-22

stewardship, God's response was fulfilled in restoration, through Christ's atoning incarnation and redeeming death for his people, reconciling them to God (Beisner et al, 2000).

In this respect, the Ethiopian Biblical exegesis states that "Christ's incarnation and redeeming act has been joyous not only to human race but also all creatures including animals and plants for they have been saved from extinction and destruction"<sup>24</sup>

#### **4.1.2. Biblical Symbolism and Metaphors Related to Trees and Forest**

The tree is one of humankind's most powerful symbols. Trees have long held a literal and symbolic fascination for humanity. It is the embodiment of life in all its realms: the point of union between heaven, earth and water. In most mythology and ancient religious imagery, the tree was believed to have an abundance of divine creative energy (Allison, 2011). Objects, actions or creatures mentioned in the Bible mostly have a deeper significance and are so understood by those who read about them. As it is recorded in the Bible Jesus also used parables and symbols to teach. That it might be fulfilled which was spoken by the prophet, saying, I will open my mouth in parables; I will utter things which have been kept secret from the foundation of the world<sup>25</sup>. Trees, forests and their biodiversity is one of the objects and actions frequently taught and revealed by symbols and parables in the Bible.

##### **4.1.2.1. Sin and Sinner in the Symbol of a Tree**

A tree was connected with man's sin. In the Garden of Eden, Adam and Eve ate the forbidden fruit of the tree of knowledge of good and evil; and after they have sinned, Adam and Eve used fig leaves to try to hide their sinfulness from the eyes of a searching God<sup>26</sup> (Athena, 2016).

St Yared's<sup>27</sup> account of the Incarnation states that "(Virgin Mary) wrapped the Infant Jesus with fig leaves" (*tebleetto beqotsle beleson*)<sup>28</sup>. The Ethiopian Orthodox tradition relates those incidents of wearing the fig leaves as the symbol and fulfilment of redemption of human race and describes it as: "Adam hide his sinfulness with the leaves, and the Second Adam, Jesus Christ, wrapped with the leaves to indicate that He redeemed Adam's sinful nature by being human and wearing leaves like Adam". Here we can see that in the Ethiopian Orthodox account of the story of Adam and Eve in Paradise and Jesus (God the Word Incarnated) in the manger leaves or trees bear great symbol of redemption.

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<sup>24</sup> Exegesis on the Incarnation of Christ

<sup>25</sup> Matthew 13:35; Psalms 78:2

<sup>26</sup> Genesis 3:1-7

<sup>27</sup> St Yared is a 6<sup>th</sup> Century Ethiopian Saint and scholar who composed hymnological texts which influenced the Ethiopian Orthodox liturgical and exegetical tradition.

<sup>28</sup> St Yared's Hymnological Book of Deggua page

The importance of bearing spiritual fruit is repeatedly emphasized in the Bible. Especially significant is the link between the failure to produce good fruit and divine judgment. Jesus makes this connection by telling the parable of the barren fig tree<sup>29</sup>, a story describing a man seeking fruit (Cheng, 2016). Ethiopian Orthodox exegetical tradition uses the concept በአንጻረ በለስ ረገማ ለኃጢአት which is translated as *‘in the symbol of the fig tree He cursed sin’*, and indicates that sin has been depicted in the symbol of the fig tree; and the curse is on the Jews, in their show of the “leaves” of outward devotion, in the absence of the “fruits” of righteousness, were as that barren tree.<sup>30</sup>

Not only fruitlessness but also bearing wild fruit was symbolised as curse of sinfulness of human beings against the will of God. The Book of Isaiah<sup>31</sup>, for instance, narrates about a song for a vineyard as: “my Well-beloved hath a vineyard on a very fruitful hill. And He fenced it, and gathered out the stones thereof, and planted it with the choicest vine; and built a tower in the midst of it, and also made a wine press therein. And He looked for it to bring forth grapes, and it brought forth wild grapes” (Cheng, 2016). Ethiopian exegetic tradition on this section of the prophesy of Isaiah continues to state the vine as “ዐጸደ ወይኑስ ለእግዚአብሔር ጸባዖት ቤተ እስራኤል ውላቱ፤ ወሰብአ ይሁዳ ውላቱ፤ ተከል ሐዲስ ዘአፍቀርከዎሙ ውነደግዎሙ ከመ ይግበሩ ጽድቅ ወገብሩ አመጸ፤ ወአኮ ርትዐ ዘእንበለ ገዐር” translated as *“for the vineyard of the Lord of hosts is the house of Israel, and the men of Judah his pleasant plant: and he looked for judgment, but behold oppression; for righteousness, but behold a cry.”*<sup>32</sup>

In the Bible, temporary might and extinction of wicked people has been, metaphorically, expressed analogous to the height and breadth of great green tree and its sudden vanishing. It is read as: “I have seen the wicked in great power, and spreading himself like a native green tree. Yet he passed away, and behold, he was no more; indeed I sought him, but he could not be found”<sup>33</sup>

#### **4.1.2.2. Righteousness and Fruitfulness in the Symbol of a Tree**

In the Book of Psalms of David a tree has been symbol of righteousness, which read as: “And he (the righteous) shall be like a tree planted by the rivers of water, that brings forth its fruit in its seasons; its leaf also shall not wither; and whatsoever he (righteous) does shall prosper”. And there is also another account in the same book read as: “The righteous shall flourish like the palm tree: he shall grow like a cedar in Lebanon”<sup>34</sup>.

And he shall be like a tree planted by streams of water, that brings forth its fruit in its season,

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<sup>29</sup> Luke 13:6-9

<sup>30</sup> Commentary on Matthew 21:18-22

<sup>31</sup> Isaiah 5:1-3

<sup>32</sup> Isaiah 5:8

<sup>33</sup> Psalms 37:35

<sup>34</sup> Psalms 1:3; Psalms 92:12



And whose leaf doth not wither; and in whatsoever he doeth he shall prosper.<sup>35</sup> The righteous shall flourish like the palm tree: he shall grow like a cedar in Lebanon. Those that are planted in the house of the LORD shall flourish in the courts of our God. They shall still bring forth fruit in old age; they shall be healthy and flourishing.<sup>36</sup> “And by the river upon its bank, on this side and on that side, shall grow all trees for food, whose leaf shall not fade, neither shall its fruit be consumed: it shall bring forth new fruit according to its months, because the waters flowed out of the sanctuary: and its fruit shall be for food, and its leaf for medicine.”<sup>37</sup> In the midst of the street of it, and on either side of the river, was there the tree of life, which bore twelve manners of fruit, and yielded its fruit every month: and the leaves of the tree were for the healing of the nations.<sup>38</sup>

There are also symbols attributed to individual trees which we mentioned only few of them as an example that cedars considered as symbol of power, majesty, royalty and beauty; oak as a symbol of strength and durability; fig tree as a symbol of spirituality, the church and fruitfulness; palm as a symbol of victory in Christ; pine and acacia as symbols of fragrance and beauty.

#### **4.1.3. Liturgical Teachings and Services**

The Church of Ethiopia is one of the few Churches of Christendom where the worship of the primitive church has been preserved. EOTC, therefore, is identified as a liturgical<sup>39</sup> church, whose rite is one of the oldest rites (Sergew & Tadesse, 1970). Liturgy is a daily practice in most Ethiopian Orthodox parish churches which most influential of the other types of prayers and worship which is used by the Church to shape behaviour of the faithful in their relation to Divine Creator and their interaction with other creatures and the environment. It is composed in the way that the clergy to say the first prayer and/or chant and the laity to respond accordingly. Liturgical prayer is attended by the entire congregation, at least, every Sunday that all the contents read and prayed out or chanted by the celebrant are recognised.

The Ethiopian Orthodox liturgical tradition recognizes 14 Anaphorae<sup>40</sup> preceded by common introductory service which various theological themes in relation to the Creator, creatures,

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<sup>35</sup> Psalms 1:3

<sup>36</sup> Psalms 92:12-14

<sup>37</sup> Ezekiel 37

<sup>38</sup> Revelation 22:2

<sup>39</sup> Based on the emphasis they put on the types of services churches generally classified as liturgical and evangelical. Liturgical churches are mostly ancient churches which are using liturgical mass service as their main medium of communication to address their congregation. Evangelical churches; whereas, use biblical preaching as their main way of communicating their followers.

<sup>40</sup> The 14 Anaphorae [of the Apostles, the Lord, St John the Apostle, St Mary, the Nicaean Fathers, St Athanasius, St Basil the Great, St Cyril, St John Chrysostom, St Epiphanius, St Gregory of Nazianzus, St Jacob of Sarug, St Gregory of Nyssa, St Dioscorus] are in use on a daily basis. As they are sang in the form of common prayer the celebrant clergies as well as the laity recite them every day and are acquainted with the contents and are regarded as guidelines in every day Christian life.

redemption, etc. One of the main themes of the liturgical book is the relationship between God, the creator, with creatures (human-being, animals and plants) and the environment. The following are some of the prayers which contributed to the comportment of the faithful towards forest and biodiversity conservation.

In the preparatory part of the liturgical service there are prayers to be recited by the priests and deacons asking God to "... remember the dew of the air and the fruits of the earth, bless them and keep them without loss" and also to "...remember the plants and the seeds and the fruits of every year, to bless them and make them abundant" (EOTC, 2010 p.27). And also the clergy further beseech the Lord to "...give graciously, rain and suitable weather and the fruit of the earth and bless the trees/herbs" (EOTC, 2010 p.82), which in turn imparts sense of responsibility on the faithful to care for the environment and assert themselves as stewards of God's creature. Likewise, forest conservation, especially, which are related to a church or a monastery receive a great deal of attention and care from the congregation.

In the book of the liturgy (EOTC, 2010), there are expressions indicating that the cross is the tree of life as it is made of wood. In a prayer which is found in almost all the Anaphorae the clergy and the laity chant alternatively one after the other as "...Remember us, O Lord in your Kingdom, as you did remember the theft (crucified) on the right hand when you were on the Holy Cross which was made of wood (p106)". In the Anaphora dedicated to St John the Apostle, it read as "...He was crucified on the wood to destroy sin (p160), and in the Anaphora of the 318 (Nicaean Fathers), it also read as "... they numbered Him as among the thieves, raise Him upon the wooden cross, and crucified Him (p. 223). All the above citations indicate that wood has been revered as the source material from which the Holy Cross has been made. As the wooden cross became symbol of Christianity due to the redemptive act of Lord Jesus Christ, who has been crucified upon it to save the human race, and hence wood is regarded as the source material for the Holy Cross chosen by the Lord to save us all.

In the part of the Anaphora dedicated to St Mary the Mother of Jesus, which is belied to be composed by St Aba Heriakos (Kyriakos). The author has expressed of St Mary as referent to "the tablets of Moses, the bush of Sainai...the rod of Aaron the priest, which grew, blossom and bore fruit. ...the tree of life of Silondis, the healer of Nahum's wounds (p.185).

The liturgical literature further expresses the Garden of Eden, as place of trees, as place of joy and delight. In the Anaphora dedicated to St Basil (p. 264), the Lord is praised as "Holy Holy Holy are you, Lord our God and our creator, who puts us in the Garden of Delight", St Athanasius prays as "O Seraph, admit us into the precious inheritance of our father (Adam) that we may be pleased with its trees (p. 240), and St Aba Heriakos speaks of this place of joy as "the garden enclosed" referent to St Mary, who gave birth to Lord Jesus as the fruit of joy for all human kind (p.185).

#### 4.1.4. The Life and Teaching of Monastic Fathers and Saints

Faith leaders have an extraordinary amount of credibility on any issue that they care to address. They have the capacity to reach out to their congregants and mobilize, engage, recruit and involve them. Over the past decades, many religious leaders and institutions have begun advocating a stance of stewardship, including for endangered species, and in the process have encountered the societal costs associated with their protection. They are now grappling with how to integrate concern for the diversity of life with their historic interest in human welfare. How to resolve these tensions is very much an open question in religion today.

The teaching and practices of Saints is regarded as a guideline in the life of the Church and inherited as part of Christian duty to loyally perform. The Bible verse read as: “Remember those who have the rule over you, who have spoken unto you the Word of God. Follow their faith, considering the outcome of their manner of living”<sup>41</sup> always is respected in all aspects of the exemplary life of the Saints. According to the Church’s Tradition of the post-biblical times, Christian Saints provide ample of witnesses on forest conservation. The Saints have rich commentaries on trees and forests that stretch back to the early centuries of the Church (National Religious Coalition on Creation Care, 2009).

The saints impart their teachings and practices, including the tradition related to forest biodiversity conservation, in their respected parish churches and monasteries. Monastery is termed as in *Geez (Ethiopic)* as *gedam* which literally means forest, wilderness, plain, desert or other uninhabited place (Belachew, 2005). While monasteries are usually located in a comparatively isolated area, due to the devotion and dedication of ascetics living in them, they have been associated with communal ascetic life of saints and represent the term monastery. Monasteries often had major influence within the church as they are used as sources of trained clergy who filled ranks of the Ethiopian Orthodox Tewahedo Church. Moreover, most of the righteous or the saints prefer to live solitary life in the wilderness of monasteries as an anchorite, hermit or coenobite. Melchezedek, Moses, Elijah can be referred from the pre-Christian or Old Testament times and St John the Baptist, St Anthony, St Simon the Stylite from the Christian or New Testament ascetics.

The Christian ascetics follow simple way of life lived by Jesus Christ in which He chose the stable (manger) for his nativity and dwelt friendly with animals which read as “And she brought forth her firstborn son, and wrapped him in swaddling clothes, and laid him in a manger; because there was no room for them in the inn”.<sup>42</sup> He also spent forty days and forty nights in the wilderness with fasting.<sup>43</sup>

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<sup>41</sup> Hebrew 13:1

<sup>42</sup> Luke 2:7

<sup>43</sup> Matthew 4:1-11

Ethiopian Orthodox tradition identifies the Mount of Temptation as '*gedame qoronthos*' which means the forest/wilderness/mount Quarantania. It is a mountain in the desert of Judaea just above the ancient city of Jericho. This Mountain is believed to be the place where Jesus was stayed forty days and forty nights with fast and at last tempted by the devil. The mountain currently contains a convent inhabited by Greek Orthodox monk in little caves carved from one side of the mountain. The Bible also mentions that Jesus was staying at night in a cave at Mount of Olive. "And in the day time he was teaching in the temple; and at night he went out, and abode in the mount that is called the Mount of Olives."<sup>44</sup>

The saints, generally, tend to imitate the simple way of life of Jesus on the earth; which are portrayed through His life in the wilderness, and stable cohabiting friendly with animals and plants and their surrounding environment and prefer to live in a solitary life with full dedication to spiritual life and with less and/or no harm to the environment (Allen, 2010).



Clockwise from left top: Icon of Jesus in the wilderness, picture of the Mount of Temptation, Icon of Nativity, picture of Mount of Olives where Jesus stayed at night and prayed after the Last Supper

<sup>44</sup> Luke 21:37

Below are very few of the prominent saints and ascetics which are relevant for this study, from the ecumenical church and the Church of Ethiopia.

#### **4.1.4.1.     *Saint Basil the Great & St Ephraim the Syrian***

St. Basil the Great (who lived AD 329-379) also writes about trees and the spiritual implications hidden in plants and grass in one of his famous works. He admired the creating wisdom of God and compares the complexity of the creation as compared to the knowledge of mankind to investigate them. In this respect, basil said: “a single plant, a blade of grass or one speck of dust is sufficient to occupy all your intelligence in beholding the art with which it has been made” (National Religious Coalition on Creation Care, 2009).

St. Ephraim the Syrian, who lived from 306-373 AD, in poetic language tells us that God created the first trees as a judge to test Adam and Eve and see how they would relate to His commands. If they obeyed God, this would be demonstrated in how they treated the trees before them. In his homilies (Hymn III: 12-15), as cited by National Religious Coalition on Creation Care (2009), St Ephraim said “The Tree to Adam was like a gate. Its fruit was the veil covering that hidden tabernacle. Even though all the trees of Paradise are clothed, each in its own glory, yet each veils itself at the Glory; the Seraphim with their wings, the trees with their branches”.

In this homily he draws a parallel between angels with their wings and trees with their branches. Trees, in his Christian cosmological consciousness, are like Angels in the natural world, bestowing blessings upon the created order. St Ephraim compared service of the Angels in bestowing blessings upon the whole universe to the service of trees to creation in providing food for animals and people; homes for birds; and shade for all creatures. He also added their aesthetic and environmental significance describing that trees beautify the land and provide stability for the soils St Ephraim further continues to express a tree in comparison with the Word of God. “The word of God”, St Ephraim explains as cited by National Religious Coalition on Creation Care, 2009, “is a tree of life that offers us blessed fruit from each of its branches”.

#### **4.1.4.2.     *St Yared of Axum, Ethiopia***

St Yared is composer, scholar, and pioneer of musical notations, who is credited for inventing the sacred hymnological tradition of EOTC and Ethiopia’s system of musical notation. St. Yared was born on April 25, 505 AD in the city of Aksum. His father having died at the age of seven and his mother gave him to her brother, Abba Gedeon, who was the parish priest in Axum, requesting to raise and educate him. However, he lagged behind in his studies and so was constantly reprimanded and punished by his teacher and became an object of derision.

St. Yared became bitter about his failure as a student and fled from the school to his birth place. He was caught by a heavy shower and obliged to take cover under a tree near a spring called Maikerah, few kilometers outside the city of Aksum. St Yared learnt his first lesson sat



under a tree where he saw a caterpillar strive, time and again despite repeated failures, to climb up the trunk of the tree to eat the shoots. The caterpillar failed six times but on the seventh trial it managed to reach the top of the tree and consume its shoots. Watching the perseverance of the caterpillar, St Yared decided to return and take up his studies again.

The second lesson comes after he recommence his studies under his uncle, Abba Gedion, with prayers and diligency he became brilliant disciple able to affluent himself with the study of the Old and New Testaments, Hebrew and Greek languages. Under a tree, when he was on prayers and rehearsal, three Angels were sent from Paradise in the form of three birds to teach Yared heavenly songs.

As it is ascribed both in the Act of St Yared, cited by Kassa (1989), “the birds circling in the air in front of Yared sang to him sweet and captivating new songs, and began praising him in his language (Geez), saying ‘*Oh! famed, honoured (Yared) and full of grace! Praised be the womb that bore you, praised be the breasts that suckled you*’, when he was spiritually stirred to heaven and filled with the Holy Spirit to compose all the Hymns” (p22). St Yared’s inspiration at two major events has been accomplished under the tree in the resemblance of tree and its biodiversity, insects and birds. Likewise, from the ancient times, trees have been tranquil spots for consolidation of wisdom, serene meditation and self realization.



Figure (a&b): Pictures of St Yared (left) take lesson of the caterpillar, (right) inspired by Holy Angels in the image of three birds to invent and compose his melodious hymns.

St Yared, thereafter, authored more than five volumes - namely *Diggua*, *Tsome Diggua*, *Zimare*, *Mewase’et*, *Me’eraf* – in which he compose his hymns in accordance with the four major seasons of the the year *Kiremt* (the Rainy Season), *Metsew* (Autumn), *Hagay* (Winter) and *Tsedey* (Spring) and intrinsically related all natural events and the environment with the Scriptures and their exegeses.

From here St. Yared went to Tselemt sub-district in the freezing and icy-cold conditions of the Semien Mountains to meditate and to teach people who came from near and far. He also went from place to place teaching in Wegera and Agew, living a life of fasting and prayer, serving and praising God with his hymns. All the hymns composed by Yared continue to be sung in churches all over Ethiopia by priests and choirs of debteras.

#### **4.1.4.3.     *St Gebre Menfes Qidus of Ziquala***

St Gebre Menfes Qidus<sup>45</sup> who lived in the 11<sup>th</sup> century AD, and is one of the most venerated Saints in Ethiopia and also is known for his environmental significance (Belachew, 2005). He spent decades in the deserts of Egypt in solitude dedicated himself for monastic life. Later in the 1130's he came to Ethiopia during the reign of the Saintly King Gebre Mariam and also named as St Harbey.

According to his *gadol* (TPE, 2000), St Gebre Menfes Qidus made a missionary journey to the southern part of the kingdom of Abyssinia accompanied by the Saintly King Lalibela.<sup>46</sup> He lived a hermitic life in the mount of Ziquala south of the capital Addis Ababa, which later became the great monastery. Ziquala Monastery is located in East Shoa Zone of Oromia Region on the top of Mount Ziquala, the highest peak in the Central Rift Valley near Awash River. The monastery is at an altitude of 3000m above sea level and situated at a distance of 27 km southwest from the town of Debre-Zeit, and 75 km south of Addis Ababa with geographical location is 380E and 9°N. Ziquala Mountain is almost cone shaped rising nearly 1000m from the surrounding plane. At the top is a circular crater, at the base of which (some hundred metres below the rim) is a crater lake. Many streams have their sources near the rim of the crater and they have eroded the land creating deep gullies on all sides of the mountain. The Monastery is covered with tick highland forest (Appendix 1) where the Columbus Monkeys and various bird species inhabit.

According to his *gadol*, St Gebre Menfes Qidus had lived in the wilderness amicably with his surrounding environment, dedicated for prayers. The *gadol* also continues to express that as he used to care for the wildlife he was always accompanied by lions and leopards (tigers), which have been indicated to be 120 in number. The *gadol* continues to narrate that St Gebre Menfes Qidus was patient enough to allow a flying eagle to suck liquid from his eyes. This has been one of the peculiar identification of the Saint that the Ethiopian ecclesiastical iconography depicts him as standing in the lake, escorted by lions and tigers, his eyes sucked by a flying eagle in the surrounding of dense forest.

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<sup>45</sup> Gebre Menfes Qidus literally means Servant of the Holy Spirit was born in Nehisa, in Upper Egypt (Coptic Nahsi) in the Province of Nimesoti, today Bahbit al-Hagara.

<sup>46</sup> Who is also one of the Zagwe Kings, successor of King Gebre Mariam. He is also known for his piety and carving of marvellous rock hewn monolithic churches cut out from single bed rock.

The teaching and life of St Gebre Menfes Qidus influenced Ethiopian Orthodox Christians and inspire them to live amicably with their surrounding environment with due care to the fauna and flora as part of human stewardship to creatures. This can be exhibited from the island of a very tact forest stand against the surrounding highly depleted by deforestation and erosion.

#### **4.1.4.4.     *St Barthelomeos of Debre Zemeda***

St Abune Bertelomewos<sup>47</sup> resented his comfort under his royal parents and dedicated himself for Christian monastic life in the wilderness, and went to Gondar for theological studies and practice of rigorous monastic order. During his stay in Gondar he met Bishop Jacob, Egyptian metropolitan for Ethiopia, and expressed his desire to pilgrim to Jerusalem, the Holy Land, as part of his dedication to monastic life. Bishop Jacob, however, prophesied for him to establish a great monastery near Debre Zemeda, and sent him with giving the Ark of St. Mary to build a church and to preach the Good News of the Gospel to the neighbourhood.

According to his *gadd* (hagiography), St Abune Berthelomewos founded the monastery and named it after a noble lady named “Zemeda”. The Monastery of Dabre Zemeda located in the valley of a natural cave which is located between the two chains of rugged mountains that extend from the North-East to a South Eastern direction of the Western Rayya district (Nigus, 2012). St Abune Berthelomewos led a strict monastic order and lived in solitary life dedicating himself not only for Christian mission but also for the care and preservation of the surrounding environment. St Abune Berthelomewos is famous in his affectionate care towards the forest biodiversity in the compound of his monastery and beyond. In his life of dedicated hermitic life, St Abune Berthelomewos was going to the extreme that he cared for the wildlife around him in the monastery, and used to physically carry and nurture lion cubs and other wildlife.

The teaching and practice of this great Saint has been imparted to his disciples, kept unpervert and passed down to successive monastic generations as a great value inherited from exemplary father and pioneer. It is through the teaching, practice and dedication of this great Saint that the dense forest and rich biodiversity of the monastery kept intact in contrast to the surrounding areas deforested and left to the state of being bare ground devoid of plantations.

#### **4.1.4.5.     *St Abune Yoseph of Lasta***

St Abune Yoseph is a fourteenth century saint who is very well known for his evangelical y and the whole massif surrounding is named after him as “Abune Yoseph Massif”.<sup>48</sup> The *gadd*

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<sup>47</sup> St Abune Berthelomewos was born towards the end of the 13th century AD Ṭas born/Yənalqa which is a rural district lays between Wag (Agaw Midir), Lasta and Rayya.

<sup>48</sup> The Abune Yoseph massif covers some 70 sq. km of Afroalpine habitat with a maximum altitude of 4,284m, which is placed on the very extreme of the northeastern escarpment of the Ethiopian highlands. It is located in



(hagiography of the Saint) describes about the role of St Abune Yoseph in teaching the local people to live an environmentally friendly way of life with respect the forest (sanctuary of the wild creatures). The hagiography further continues to mention an instance of a covenant placed between the wild creatures living in the forest and local farming community, which is still influential in the area as it is believed that there is a divine blessing of the covenant for both of them to live amicably in accordance with the agreement laid by the Saint (AYCCA, 2013).

The hagiography explains about the incident that the Saint encountered a certain local farmer crying while looking after his cropland, and when the Saint asked him what was wrong, the local farmer replied that his mother had passed away and he wasn't able to go to the funeral leaving the cropland unattended, and if he did so the *geladas*<sup>49</sup> will consume the newly sprouted crops, and would not have enough food for his family the whole of the year. Upon hearing this, the hagiography continues, Saint Abune Yoseph offered to watch over the land so that the farmer could attend his mother's funeral. When the farmer left, the monkeys approached, and the Saint sternly told them that the local people's farmland was not their territory, and instead they should remain in the forests and bushes of the mountains. The next day, he held a meeting on the plateau between the *geladas* on one side, the local farmers on the other.

The Saint, according to the hagiography, ordered the local farmers not to collect the seeds that spilled from threshing, and they would become available to the *geladas* to consume after harvest. In the same manner, the hagiography further continues, the Saint told the *geladas* that during the season from ploughing to harvest they were not allowed to appear on the farms to eat, and to be contained in the mountain grasses. The local farmers, in return, not graze their livestock on the mountain grasses which is the *geladas* forage (Nigus, 2012).

Since then, the *geladas* and local people have respected their promises. One can even see *geladas* wandering on the boundaries of farms, and without tending to eat any crops. This extract of the hagiography is depicted in a parchment and is kept as a very important icon of the Saint at the cave church, founded by the Saint, and displayed in the time of church services.

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the Lasta massif at 12°N and 39°E. The Abune Yoseph area is made up of a diversity of vegetation types including bushlands, woodlands, montane dry forests, and Afroalpine grasslands. The massif encompasses so many churches and monasteries.

<sup>49</sup> The *gelada* is an Old World monkey, previously named as a baboon due to conventions. It is the only living member of the once widespread genus *Theropithecus* and is only found in the highlands of Ethiopia. The present day distribution of the *gelada* is limited to the steep escarpments and gorges that border the eastern side of the central highlands and the northwestern highlands of Ethiopia. The *gelada* feeds predominantly on fresh shoots of grass, and to a lesser extent on grass roots and seeds. The *gelada* is also called the bleeding heart baboon as a result of the distinctive, bright red, heart-shaped patch on its chest.

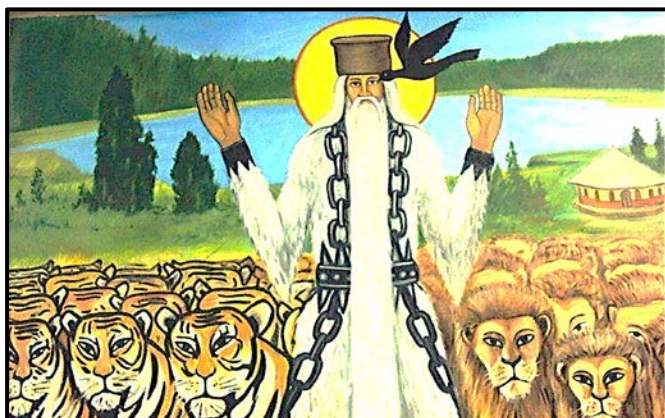
#### 4.1.4.6. *St Samuel of Waldiba*

St Samuel of Waldiba<sup>50</sup> is responsible to reorganize the monastery of Waldiba, which was founded earlier in 485 AD and undergone series of destruction until the 14<sup>th</sup> century AD. The monastery is the largest of all the monasteries in Ethiopia, which covers the area of more than 120 km<sup>2</sup> and covered with dense forest of various indigenous species. St Aba Samuel of Waldiba, as a great figure of reorganizing the monastery, has conveyed so many teachings and practices in the monastic community which has been inherited down generation to generation. According to the history of the Monastery “monks and nuns living in Waldiba are expected to live life of angels in the earth. They consume the least possible from their surroundings; they live in the forests of the monastery amicably with animals and plants found in the monastic compound” (AADO, 2007).

The hagiography of St Abba Samuel states that God had given him authority over the “animals of the desert”; and due to this, snakes, leopards, lions, and elephants saluted and submit to him. The hagiography continues to state that the Saint himself care the animals and their sanctuary. The occasions of his attendance of a lioness in labour and pulling out a splinter of wood from a lion’s paw are also mentioned frequently and a motif often reflected in Ethiopian Orthodox traditional painting is used to show the intimacy and care of the Saint. The hagiography is always read out on the pulpit as part of the daily service and the icons are displayed for worship that it has great significance in inspiring the faithful to care for church forests and their biodiversity.

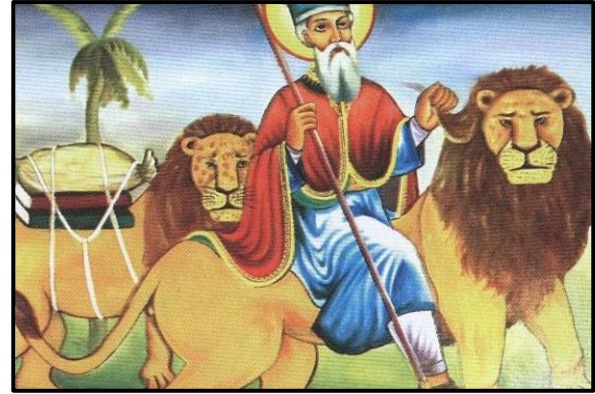
#### 4.1.4.7. *St Samuel of Debre Wegeg*

St thewasHis monastery has been established on a mountain located near the small town of Asebot in western Hararghe Zone of Oromiya regional state.



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<sup>50</sup> St Aba Samuel of Waldiba is one of the highly venerated Saints in the Ethiopian Orthodox Church. Aba Samuel lived in the reign of King David IV (1365-1395)



(Clockwise from top left): Icons of St Gebre Menfes Qidus of Ziquala, St Abune Yoseph of Lasta, St Abune Barthalomewos of Zemedra, and St Abune Samuel of Waldebba (Source, EOTC).

The monastery has two churches: one in the middle of the mountain, named Debre Wegeg Aba Samuel, which is a convent for nuns, and the other on top of the hill, Debre Wegeg Holy Trinity, abode of monks. The two convents administered as one monastery, and are centres of devotion and meditation for monks and nuns, education centres for disciples. Beyond their spiritual dedication and ecclesiastical services the monks and nuns are involved farming, bee keeping for their needs and also involved in forest management to preserve remnants of ancient forest of various species (Appendix 2) which are spared from the successive and severe deforestation occurred their surrounding (Kaplans, 2005).

## 4.2. Tradition and Practice

### 4.2.1. Importance and Use of the Holy Tabot<sup>51</sup> and the Holy Cross

In Ethiopian Orthodox Tewahedo Church it is the Tabot rather than the church building which is consecrated, and it is believed that the consecration originated from the Tablets (Tsellat) kept in the Tabot will be imparted to the altar, and then to the sanctuary and whole building, and then to the compound and the surrounding. The Tabot is used in almost all practices of the Church that the officiating priests have to physically put items on the Tabot/Tsellat in the time of liturgical/Eucharistic services, and this is confirmed by the preparatory liturgical prayer read as: “Bless thy bread and cup which we have set upon this spiritual ark of yours” (EOTC, 2010 p.47).

The concept and function of the Tabot represent one of the most remarkable areas of agreement with Old Testament forms of worship, and the use of wood to make the Tablets is derived from the command “...they shall make an Ark of shittim (acacia) wood...”<sup>52</sup>

<sup>51</sup> A Tabot (ታቦት) is a consecrated wooden altar slab, which symbolises the Ark of the Covenant (containing the Ten Commandments) and represents the presence of God. It is also named, but is less commonly used, as Tsellat (ጽላት) in which case the word refers only to a replica of the Tablets. In Ethiopic (geez) language the former is referred as the receptacle and the later as the Tablet. It is a requirement that every Ethiopian Orthodox parish church must have a Tabot in the altar (መንበረ ታቦት menbere tabot).

<sup>52</sup> Exodus 25:10

Moreover, the exegesis (commentary) of Wudase Mariam (Praise of St Mary)<sup>53</sup> has mentioned that the Tabot is made of shamshir/shitim (acacia) termed as “ታቦት ዘግቡር እምዕፅ ዘኢይነቕዝ” which literally means “made of wood which is not susceptible to termite attack and to rotting”. Due to these Biblical and exegetical traditions there is an idiomatic expression of the importance of forest and/or wood in a phrase read as: “ከእንጨት መርጦ ለታቦት፣ ከሰው መርጦ ለሹመት” which can literally be translated as “*selected from wood to (make) a Tabot, and selected from human to a power*” (EOTC, 2004).

The Cross, seen as a representation of the instrument of the crucifixion of Jesus, and is the best-known symbol of Christianity. The first cross on which Jesus has been crucified is made of tree/wood. Due to this the cross is related to the crucifix and also the three-dimensional representation of Jesus' body.

The cross as a Christian symbol or "seal" came into use at least as early as the second century. The cross is installed on atop over domes/roofs of church buildings and frontages of church and monastery compounds to identify they are Christian institutes. Beyond this the marking of a cross upon the forehead and the chest is regarded as atalisman against the powers of demons. Christians used to swear by the power of the cross, and respectfully kiss from the hands of the priest to only to get blessings and to show reverence to the redeeming act of Jesus Christ crucified upon it, against the charge of being worshipers of the cross.

In all prayers of the Church there is a concluding section which glorifies God as Creator, Holy Virgin Mary as mother of the Lord, and the Holy Cross as the tree/wood of salvation. This prayer reads in its part of praise for the Holy cross as “... ስብሐት ለመስቀለ ክርስቶስ ዕፅ መድኃኒት ኃይልነ ወጸወን” which literally means “...glory to the cross of Christ, tree/wood of salvation, our power and our refuge.” There is also a prayer named dedicated to the Holy Cross and named as “መስተብቁእ ዘቅዱስ መስቀል” (*prayer of plead of the Holy Cross*) in which it mentions the Cross as king of trees/plants and tree of life. The full version of the prayer reads as follows:

“ወካዕበ ናስተበቅዶ ለዕፅ ቅዱስ መስቀል፣ ጽኑዕ ሥልጣን ወኃይል ወሊሉየ መልክዕ ወአካል፣እመልክዕ በትሩ ለእርን ካህነ ጽላሎት ወእምሳል። በትረ አርንስ ዘሠረፀት ወፈረየት ከርካዕ፣ ኢደድኃነት ጻድቀ ወኢቤዘወት ኃጥአ፣ እስመ አልባቲ ክሂል ወኢመዊዕ። መስቀለ ክርስቶስስ ቤዛነ ወኃይልነ፣ አግዓዘ ጻድቃነ ወኃጥአነ፣ እምግብርናተ ሠይጣን ጸላኢነ፣ ኑሂኦ ሥላጣነ እምነበ እግዚአብሔር አምላክነ። .... ክቡር አንተ ንጉሠ ዕፅዋት መስቀል፣ ወክቡር አንተ ዕፅ መስቀል፣ ወክቡር ዘተቀደስከ ቢደመ ክርስቶስ ቃል።”

... and this is translated as:-

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<sup>53</sup> It is authored by St Ephraim the Syrian, and is one of the very important literatures which has been translated from Syriac to Geez, and is used in everyday prayers and services at all levels in liturgical as well as individual prayers.

*“Again we beseech for the Holy Wooden Cross, exceptional might and power, exceptional image and appearance from the image of rod of Aaron, shadow and symbol of priesthood. The rod of Aaron, however, grown and bear fruit without being planted, when it stands outside; it neither saved the righteous nor redeemed the sinner, as it hasn’t ability and victory. The Cross of Christ, whereas, our saviour and power, freed the righteous and sinners from the bondage of our enemy Satan, taking power from the Lord our God; .....Honoured you king of plants (woods) cross, honoured you wooden cross the honoured, who blessed you the blood of the Saviour, the Devine.....” (EOTC, 1997, p.327-8)*

The great importance and frequent or day-to-day use of the Tabot and the Cross in all sorts of worship, and that these two holy articles are made of wood makes a Christian symbolism and reverence to tree/wood as source of these most Holy articles. However the worship goes not to the substance of the wood or tree from which the Holy articles are made of, but to their consecration as Tabot and Cross, the word and the sign carved on them. There is exegetical correlation of make of these holy articles from a living tree and use of them for a life-giving service, linked with the tree/wood as source of life-giving holy articles, and this reverence extended towards the respect and preservation of forest, especially church and monastery forests.

#### **4.2.2. Importance and Use of Holy Oil, Incense and Myhrr**

There are two types of holy oils used to perform sacraments in the Church, which are referred to be *Mestire Meron* (The Sacrament of Confirmation) and *Mestire Qandil* (The Sacrament of Unction of the Sick). The first is used for confirmation of a baptizee, consecration of a new church building, confirmation of ordination, coronation of a Christian king or queen. The second one, whereas, is used for unction of the sick, exorcism and blessing of houses. Both of the Holy oils are made of Olive Tree. The mountain where much of these olive trees were found is named after the trees and known as Mount of Olives. It was one of the best fevered places by Lord Jesus Christ in His time on the earth. It is recorded in the Gospel that the Lord used to stay in overnights in a cave at the Mount of Olive. The way that Olive Tree chosen as a source for the anointing holy oil and Jesus’ preference of the Mount to stay in the nights has been the reason for the high regard towards Olive Tree and the Mount of Olives, and hence the forests as a source of holy anointment and a special place of devotion and worship.

One of the very important practice in the Ethiopian Orthodox Tewahedo Church, alike the other ancient and traditional churches, is use of incense and myrrh in liturgical and sacramental prayers. This practice anticipates its origin from the passages of the Bible describing the order of the Lord to bring burnt offerings and burn fragrant incense perpetually every morning and evening throughout generations. The responsibility of offering the oil for the light and the fragrant incense and the continual grain offering and the anointing oil are

ascribed to Eleazar the son of Aaron the priest, and his successors.<sup>54</sup> The Ethiopian Orthodox tradition upholds words of the St John Apostle and the Evangelist “...and the smoke of the incense, with the prayers of the saints, ascended before God from the angel’s hand”<sup>55</sup> and due to this raising of incense is so important that almost all prayers and services are accompanied by rising of the incense. The incense is sourced from a tree/forest, and as a source of this important offering the forest also received high regard and due protection.

#### **4.2.3. Medicinal herbs/bushes/trees**

Apart from they are sources of timber for construction and fuelwood, rich in biodiversity, sequester carbon, conserve water, and reduce soil erosion, Robinson (2015) states that, church forests are also the main sources and major ingredients of medicine production. Even before the modern industrial manufacturing of medicines, different parts of trees and/or shrubs have been used, and are still in use, as a cure of or protection from various diseases. In this respect, forests found in churchyards and monastery compounds are well known in their medicinal significance due to their continuous preservation and enhanced regeneration within an environment of minimal or no human and livestock interference.

It is believed that church forests are sources of herbs and trees which are used as medicinal cure for physical ailments, spiritual cleanliness, wisdom attainment and general wellbeing. As source of medicinal and wisdom importance, herbs and trees in the church forests are regarded with great respect and care alike the rest of the plantation, and hence, have great chance of remaining intact for decades if not for centuries. Preparation and use of medicines from trees and shrubs is regarded as one of the very important faculties of the theological and ecclesiastical fields of the church. There are some trees and shrubs, *itse hiwet (herb of life)*, *itse Iyesus (herb of Jesus)*, *itse fars (herb of Persia)* are only few of them, identified for their medicinal importance, and also books, like that of *metshafe medhanit (the book of medicine)*, *metshafe fews (the book of cure)*, are authored explaining about herbs significant for their medicinal importance, the way of preparing medicine for varying ailments (Fullas, 2001).

#### **4.2.4. Sanctuary Thinking**

Ethiopian Orthodox Christians regarded the churchyard as the Bible’s Garden of Eden, sanctuary of life. Anything within the churchyard and monastery compound is to be kept as it is and not to be altered. Such sanctuary thinking of the church is so dominant tradition that let alone the forest or a tree stand even the one fallen on the ground due to windthrow, or branches fell apart due to old age are also to be kept untouched and left to decompose, which helps to fertilize the top soil and relatively faster regeneration of forest biodiversity is attained.

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<sup>54</sup> 2 Chronicle 13:11; Exodus 30:8; Numbers 4:16

<sup>55</sup> Revelations 8:4

This sanctuary thinking of the churchyards and monastery compounds is one of the most important reasons accounted for the preservation and conservation of ancient forests of indigenous species. This can evidently be seen from the existence of ancient forest stands in churchyards and monastery compounds in comparison with the degradation mostly seen in the surrounding lands community or government owned forest lands. One of the motives behind the ethics of not cutting forest/trees belong to churches and monasteries is the sense of respect of churchyards and monastery compounds as sanctuary of life which are dedicated only for God and the Saints, and are meant to be preserved for the sole purpose of worship and meditation. This is stemmed from the biblical teaching of the church and subsequent practices of the faithful and also further supported with metaphors like *“a branch of a tree, even a fleck of wood to the amount of a tooth pick, should not be cut or taken from the churchyard or monastery compound”*.

#### **4.2.5. Tomb/Graveyard Plantation**

From the different ways of disposal of the dead body, the traditional burial, burial at the sea, mummification and cremation are most known ones. In Ethiopia the traditional burial is the only known and practiced method to disposing dead bodies, that there has not any historical indication if the other techniques have been used. Therefore Christians and non-Christians use burial as the way of resting dead bodies of families, relatives or friends.

The tradition of Ethiopian Orthodox Tewahedo Church dictates that burial of the departed should be around churches or in monastery compounds. For an Ethiopian Orthodox Christian, the Church is regarded as the place to be from birth to death. Children from their early childhood, at their age of 40 days for boys and of 80 days for girls, are taken to the Church for baptism, spiritual rebirth to be introduced to the life of Christianity; and then are linked to the Church until their death followed by the final time of departure, when their body will be carried to the church for final farewell (funeral service) and burial at the churchyard. In summary an Ethiopian Christian will be carried to the church with parents as infant for baptism and once again carried to the church as dead body for the last farewell of this earthly life.

According to the Ethiopian Orthodox Christian teaching and tradition burial is restricted to church yards or monastery compounds. Unless any circumstances which do not allow entombing the dead at the church have happened funeral of every Christian should take place in the strictly on church grounds. Tree planting and placing a stone/concrete slab/statue are the two major ways of marking the tomb of a certain departed individual. Tree planting to mark a tomb is a very ancient and widely practiced in the church. It is customary to plant a tree on a tomb of a dead family member, relative or friend. It is assumed, though it needs proper study, that the churchyard forests may be results of plantations on tombs. Nowadays, especially in towns and cities, this planting a tree on a tomb is overtaken by placing a concrete slab or stone statue. Concrete slabs and stone statues are against the age old tradition of planting on tombs (Robinson, 2015).



Graveyard plantation is relatively cheaper, easy and environmentally friendly. It also creates the required tranquil environment for prayers and meditation, and it is compatible with the identification of the church as sanctuary of life parallel to the biblical Garden of Eden. The plantation is done mainly for two reasons. The first is as a demarcation or identifying feature of the tomb of a certain person, and the second is as a symbol of life after death, which is related to the continuity of life after death as it is believed that the dead departed from this earthly life will continue to live in the heavens. Relatives are also expressing their affection to the departed in not only planting a tree, but also caring the tree, by watering, fencing and so on, until it can resist and grow by itself. Therefore, with the symbol of the health and growth of the tree planted on the tomb, the family depict that the soul of the departed is still enjoying heavenly life in the Paradise (the Garden of Eden).

### **4.3. Implications to the National Conservation Policy**

#### **4.3.1. The National Forest Conservation Policy**

Different sources indicate that about 35-40% of Ethiopia's land area was covered with high forests at the turn of the 19<sup>th</sup> century. However, the forest area has been reduced to 16% in the 1950's and 3.1% in 1982, mainly due to rapid population growth, extensive forest clearing for cultivation and over-grazing, and exploitation of forests for fuelwood and construction materials without proper replanting. Further estimates of the distribution of forest and woodland areas made on the basis of information from LANDSAT imagery (1979) revealed that only 2.8 % of the land surface is under forest and woodland (Bishaw, 2009).

In Ethiopia formulation of systematic national forest conservation policy is fairly recent activity which has only an age of less than half a century. During this relatively short period of time the policy passed through three different approaches following the regimes, i.e. the Royal Monarchy, the Communist Government, and the ethnic based Federal Government. The Royal Monarchy favors private ownership of land and resources, including forest. Prior to the 1974 Revolution in Ethiopia a large portion of Ethiopia's natural forest was owned by the private sector. The communist government; whereas, promotes communal ownership, and the current federal government upholds government ownership of land and land-based natural resources.

Table 2: Natural Forest Vegetation Coverage of Ethiopia (Source: MOA, 1991)

No	Vegetation Type	Area (in Million ha)	Coverage (In %)
1	High forest	3.44	2.8
2	Riverain and mangrove forest	1.30	1.1
3	Bamboo woodlands	0.45	0.4
4	Mixed Deciduous	2.50	2.0



5	Acacia-Boswellia, Commiphora species, including wooded Grasslands	20.00	16.0
Sub Total		27.69	22.3
Other Lands		92.31	77.7
Total		120.00	100.0

It was in 1965, during the reign of His Imperial Majesty Emperor Haile Sellassie the late, the first basic forestry acts, in written form, were promulgated in which forest resources and proclamations were made to protect forest resources. These proclamation identified forests as state forest, private forest and protective forest (Urkato, 1995). The first reconnaissance of forest inventory of the Ethiopian forest was made during 1975–79. The inventory covered areas within a 400 km radius of the city of Addis Ababa and provided substantial information about the country’s natural high forest (Ayana et al, 2013; Belachew, 2005). These proclamations neither allocate Church forests under one of the above three ownership types, nor identify in any other type of ownership. In the subsequent inventory, there is no evidence of mention or quantification of Church forests.

Although the need to institutionalize a professional model of forest management was recognized well before the downfall of the monarchy, Ayana et al (2013) explained, forest policy only received high political attention and institutional profile following the mid-1970s Ethiopian revolution. The Revolutionary Government established an autonomous forestry institution namely Forest and Wildlife Conservation and Development Authority (FAWCDA), which has been characterized as the strongest forestry authority ever having been active in Ethiopia. A new forest law was enacted in 1980, which helps to strengthen the institutionalization of forestry; following which, in 1986, a study conducted to identify the National Forest Priority Areas (NFPAs). In this study 58 NFPAs identified with their total area of about 3.5 million hectares. The main objectives of the identification of the NFPAs were to promote forest management practices and to implement an integrated management system (Belachew, 2005; Ayana, 2013).

During the Revolutionary Government, mass plantation campaigns were conducted from the early 1980s which resulted in the plantation of millions, if not billions, of seedlings of exotic species were extensively planted on hills and communal rangelands. The period of FAWCDA was stated as the ‘golden age’ of forestry, characterized by intensive forest development activities, the outcome of which are most of the currently existing plantations; including the extensive fuel wood plantations around urban areas. Whereas, the survival or growth rate of the new plantation was not equivalent to the broad approach of plantation. Mostly lack of awareness with the mass population who carried the plantation, incompatibility of the planted exotic species to the agroecological zone of the area where they are planted, lack of follow ups and protection were few of the reasons for low survival rate.

As a result of NFPA identification and subsequent replantation effort the main tree-species planted included *Cupressus lusitanica* and *Pinus patula*, *Juniperus procera* planted on high elevations, and *Eucalyptus species of globules, camaldulus and camaldulensis* were also widely grown, mainly for construction-poles and fuel wood. The largest area to be planted in any single year, for instance, was 33,100 hectares planted in 1981/82. Like that of the number and total number of NFPAs, the total area planted also declined that in 1994 only 21,600 ha was planted (Belachew, 2005; Ayana et al, 2013). As Ethiopia is a major producer of honey and frankincense in Africa, in addition to the forest protection and development programs attention was given for NTFPs (Non-Timber Forest Products). During this period the major source trees of NTFPs from the species of *Acacia*, *Boswellia*, *Commiphora*, etc were identified for further care and conservation as sources of gums, incense and myrrh (Belachew, 2005).

During the time of the Federal Government an extensive Rural Development Policy and Strategy (RDPS) document drafted in mid-1990s and issued in 2001 is in which forestry issues were given marginal attention and are mentioned only in ten lines of a 280 pages long document. In the policies and strategies, forests or trees are considered as supplement to agricultural production and contribute to the planned rapid economic growth rather than conserved and developed in their own virtues. The ethnic based Federal Government adopted decentralised system bestowing autonomous power to regional states. Even though the regional states are allowed to formulate policies and strategies including forest development, the decisive guidelines, Ayana (2013) added, are still originated from the federal government.

In 2007 forest policy was enacted, but it still is insignificant as it lacks implementation instruments such as directives and guidelines, an autonomous forestry organization that supposed to coordinate forestry activities, particularly at national level, has not been established. Although tree plantations and forest product marketing by smallholder farmers have significantly increased in the last two decades, the official statistics often underestimate the contribution of forestry sector to the national economy and rural livelihoods primarily due to lack of reliable data and methodological limitations (Ayana, 2013).

In the process of the national forest policy development of the three regimes, i.e. the Royal Monarch, the Communist Government and the Federal Government, Church forests were not given due concern and proper attention. In the recent policies which focused on agricultural development and economic goals, forest resources are considered inputs of agroforestry programs complementing the agricultural productivity, and hence, economic achievement. It is quite apparent that Church forests will undergo through serious neglect as they are not deemed to bring monetary gain.

#### **4.3.2. Significance of Church Forests**

Any visitor to rural Ethiopia cannot fail to notice the patches of trees atop many of the hills. Close inspection will usually reveal a church or some other holy site such as a shrine or

cemetery. These wooded hilltops, often in an otherwise treeless landscape, are mostly in Ethiopia's northern highlands, home of the Ethiopian Orthodox Church (Allen-Rowaldson, 1992). The Ethiopian Orthodox Tewahedo Church has nearly 40,000 parish churches and 2000 monasteries dispersed throughout the country, from wet and ice covered pick highlands to arid lowlands and desserts.

Most of these parish churches and all of the monasteries have forest resources in their compounds. The concentration and size of forest varies from dispersed or lined trees following their inner and outer fence facades to densely populated forest lands amounting to tenths of hectares. Except studies in the forest resource of very few sporadically selected churches and monasteries, there is no full and proper record on the size, composition and distribution of church forests at national or regional level. Projections, however, can hint that considerable size (approximately 20,000 or more hectares) and compositions ranging from ancient remnant forest species to relatively recent plantation can be found in recently planted ones are found in churches and monasteries dispersed in all agroecological zones of the country. More than the size, their distribution and composition made church forests very important as they vindicate types of floral resources of various climatic zones.

Church forests are very important repositories for both faunal and floral resources of Ethiopia. They are what remain of the once vast tropical Afromontane dry forest and have great significance as they are sanctuaries of those remaining ancient forests which can stand as an evidence for the historical background of forest cover in the surrounding area. They are also the last reserves for endangered plant and animal species and sources of germplasm particularly of tree seeds both for afforestation and conservation of these species. In regions where the original vegetation cover has gone, the islands of church forests are indicators of the Agroecological Zones and of past natural vegetation and can give direction on species to be chosen for afforestation programs in these areas (Demisie, et al 2001). Church forests are not only museums of biodiversity, but also representatives of vegetation and forest biodiversity of all altitudes and climatic zones due to their distribution throughout the country, which accounts to their existence in almost all parts of the country and represent.

Church forests are excellent centres of learning and research. They are ideal sites, Demisie et al (2001) added, for studies on vegetation history, ecology, taxonomy and other fields of biology and forestry. Monastery and church forests are sources of knowledge on biodiversity including its uses. Moreover, they could serve as models of sustainable forest management with a minimum amount of human intervention.



(Clockwise from top left): Faithful walking through a church forest, Aerial photo of Debre Sina Church, One of the island monasteries in Lake Tana, a monk in one of the monasteries.

#### 4.3.3. Policy Implications of Church Forests

In spite of their significance, however, church forests receive little or no consideration in the process of formulating and developing forest conservation policy in all the three major eras, i.e. the royal monarchy, the communist government and the federal government. Let alone proper consideration and due inference, there is no even mention of church forests in the above the formulation of major proclamations, forest conservation policies, strategies and detailed action plans. The proclamations, policies and strategies have no clear plan on church forests and there is no due consideration of church forests in national and regional planning.

Except the royal monarchy, which is highly linked to the Ethiopian Orthodox Tewahedo Church, subsequent regimes (the revolutionary government and the federal government) trying to echo simple neutrality in all aspects and indiscriminately avoid opportunities of partnership in important aspects. The royal monarchy, though it assumed intimacy with the church through, it has not articulated the opportunities which can be obtained from the church forests in its forest policy. Even is the church is considered to have nominally owned one third of the land (*siso mengist*), the ownership and management forests in churchyards and monastery compounds were not given due attention. The later regimes indiscriminate avoidance of cooperation with faith institutions deprived them from having the opportunity of

working together in conserving the rare species spared from degradation and the chance of scaling up experiences from the survival of church forests.

The national forest policy, therefore, lacks important input towards meaningful formulation of policies and subsequent shaping of strategic plans for implementation. The shortcomings, according to the author of this thesis, are identified as ownership issues, lack of intervention, and compatible development plans.

#### **4.3.3.1.    *Ownership of Forest Resources***

The national forest policies of the past and present identify land and forest ownership as government and private. In these policies Church forests are not acknowledged as properties of the individual parish churches and monasteries, and these posed severe threats against the existence of the church forests which is feared that the remaining green belts of the country's remnant forests would be lost. The current land and forest ownership policy has adverse effect on church forests, and this recognizes churches and monasteries to act as guardians or leaseholders and guardians. Regional National States and local government bodies have claimed that monastery forests belong to them whereas they did not make any efforts to save them from the pressure of the local people for agricultural land expansion and destructive timber production. The issue of ownership aggravated the rate of deforestation as the surrounding people, particularly those who are not followers of the faith, begin to deny the fact that forests in the peripheries of churches or monasteries belong to the church (Demisie, et al 2001).

The Ethiopian Orthodox Church should be entitled to the ownership of its forests. This may require the recognition of monastery and church forests as one of the forest ownership categories by the government. This in turn, hinders churches and monasteries from claiming legal solutions for deliberate trespasses. This problem would be solved, as it is indicated by Demissie et al (2001), if churches and monasteries been bestowed legal ownership of their own forestlands. This may allow that in situ forest conservation sites can be established in several of the monastery forests for better conservation, development and protection. The Amhara Regional State, in this respect, taken the initiative to acknowledge ownership of the land and forest of Mahibere Sellassie Monastery and gave certificate of ownership for the forestland of 19,000 hectares to the Monastery (Moa, 2016). This acknowledgement has to be replicated for all the other churches and monasteries in the region, and also adopted by all other regional states.

#### **4.3.3.2.    *Attention and Protection***

In order to prevent the loss of invaluable biological and natural resources, a rescue operation should be launched by all concerned and the intervention of the Ethiopian Government is crucial to save the remaining monastery and church forests. In situ conservation sites should be delineated and managed in appropriate monastery/church forests and seeds of priority or

threatened species should be collected for ex situ conservation measures and for establishing plantations as well. Further studies are recommended in the various fields of ecology of monastery and church forests. The government needs to give proper legal protection to Church forests. Due to multi-tier nature of the current ethnic based federalism, there are misunderstandings between the federal and regional governments. In the case of illegal surges from the community in the vicinity and in case of forest fire incident the responses from both the regional and federal governments were unsatisfactory. Therefore church and monastery forests should gain proper legal protection from the respective regional governments and federal authorities (Tilahun, 2015).

#### **4.3.3.3.     *Compatible Development Programs***

Forests are significantly important not only for their monetary value but also equally valuable for their decisive role in watershed protection, biological diversity, wildlife and tourism, carbon sequestration etc. As church forests are kept mostly for their non-timber values there should be well crafted and deeply thought plan and strategy to design and implement development programs compatible to the church and/or monastic orders as well as non-timber values of the forests. NTFPs like honey, frankincense, gum, cut and feed fodder for animals are some of the areas of planning and intervention so that church forests could be wisely utilised and, at the same time, kept as biodiversity museums. Therefore government and other stakeholders like NGOs and aid organizations would participate in technical support to assess, quantify and properly document forest resources of the Church, and develop sensible action plan for better use of them both by the church/monastic community as well as the wider community.

## 5. Recommendations

In general, monastery forests are under severe threat and are declining in quality (degradation) and quantity (deforestation). The government should give due attention to the importance of and protect the remaining church forests. The church also needs to promote environmental protection and forest conservation. It is necessary for Monks, priests and church administrators to be aware of the environmental importance of church forests. Theological institutions of the Church such as universities, colleges, seminaries and local schools of traditional education (*ye abnet timhirt betoch*) should include the issue of environment and conservation of forest biodiversity in their curriculum to create awareness among all their disciples and future administration. Aid organizations run by the Church, like that of EOC-DICAC, should focus on the practical preservation and regeneration of church and monastery forests in the form of subsequent clergy trainings and capacity building programs in environment and forest conservation.

The existence of ancient remnants of forest species around churches tact and relatively untouched as compared to trees on less degraded lands of their surroundings is a great indication that achievement of forest conservation can be attributed to the behavioural facets than the physical interventions. This shows that formulation of a policy and strategic planning to conserve forests should consider the value, tradition and socio-cultural aspects are as important as the scientific and physical interventions. Forests are useful for ecosystem protection, amenity, climate amelioration, nutrient cycling, hydrological cycle, water and waste purification, and social and cultural values. The preservation of church forests, therefore, is an indication that the conservation and development of natural resources cannot always been done for their economic return, it also contribute to environmental, spiritual and cultural values.

Church forests can provide practical lesson for forest preservation and rehabilitation, especially with the area enclosure type of conservation measure. Area enclosure is a type of forest conservation method by which degraded communal lands excluded from human and livestock contact to rest for natural regeneration. Setting aside natural areas to maintain their intrinsic values is not a recent phenomenon that protecting natural forests and rehabilitating vegetation around churches and graveyards has been practiced for millennia (Bahiru, 2008).

It can be said that such ecological restoration of degraded habitats through enclosure is adopted directly from the way Church forests enjoy an enclosed environment free from livestock and human interference and left just for natural revival. This method of forest conservation proved to be effective in the semi-arid and arid climatic zones where only few trees are left on the land, as natural regeneration can be achieved relatively quickly as compared to pick highlands with wet climatic conditions. The government can practice enclosure as mitigation of degradation through limited interference and natural regeneration. Area enclosure has been scaled up in various places throughout Ethiopia (Mebrat, 2015; Tilahun, 2015).

## 6. Conclusion

Amidst of the successive wave of deforestation and depletion the sacred church and monastery lands of EOTC have remain, for many centuries, as islands of natural forest biodiversity in a sea of deforested landscape in much of the Ethiopian Highlands. Unique and valuable natural forest remnants survived in and around churchyards and monasteries that contain natural forest vegetation rich in biodiversity, which consist not only trees but also shrubs and herbs, and they constitute important habitats for a variety of rare vertebrate species. Survival of church forests, in fact, is related to the spiritual values attributed to the teaching and practices of the church. The Ethiopian Orthodox doctrine and tradition is entrenched on Biblical teachings of the OT and NT books, supplemented with hagiographies of Saints and monastic figures. The Church perceives that nature includes people, trees, animals, water, land features and the nation as a whole. These teachings and practices impart the fact that forest biodiversity and all natural resources are revered as God's creation. With the same perfunctory the church teaches that human beings as stewards of God's creation and instruct to duly care for them.

No systematic study has so far been carried out to assess the overall area covered by ancient church forests, their species composition and the status of their biodiversity. Nor has there been any formal investigation of the values placed on this biodiversity by members of the church and the wider population. Church forests, however, are very important not only for that they are remnant of ancient natural vegetation, but also they are distributed in almost all parts of the country in the compounds of nearly 40,000 parish Churches, and more than 1,500 monasteries spread all over the country. Moreover, they are revered as sacred and inviolable by 50 million followers of EOTC, i.e. more than half of Ethiopian population, and received national and global attention as biodiversity treasures by the wider society. Being an official state church for more than 1600 years, from the early 4<sup>th</sup> to the late 20<sup>th</sup> century, the church plays significant role in the socio-cultural life of the Ethiopian people in various fields including environment and forest conservation.

The church's influence on its followers, and the nation at large, is the basis for the conservation of forests and is relevant to the national and regional endeavours for forest conservation. The Church's positive influence and the response of the people can be reflected in the design of sound forest biodiversity conservation policies, and would also contribute to a more feasible and sustainable way of planning and implementing forest conservation activities. Forests are more than trees and are complex biological systems that provide far more to human society than mere fruits for food, timber for building or pulp for paper. The church, therefore, is the right model of forest conservation mainly intended for environmental enhancement and non-timber economic benefits. Church forests, which themselves are currently under threat of encroachment due to farmland expansion and extensive grazing, should be conserved as biodiversity museums of the nation, and even of the world, as they are repositories of ancient natural flora, some of which are endemic to Ethiopia and recognized as critically endangered species.



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## Appendices

### Appendix 1: Tree and shrub species list of Debre Zequala Monastery Forest.

N0	Species	Family
1.	<i>Dombeya</i> sp	Sterculiaceae
2.	<i>Dovyalis abyssinica</i> (A.Rich.) Warburg	Flacourtiaceae
3.	<i>Erica arbor</i> L.	Ericaceae
4.	<i>Euclea schimperi</i> (DC., A.) Dandy	Ebenaceae
5.	<i>Galinieria saxifraga</i> (Hochst.) Bridson	Rubiaceae
6.	<i>Hagenia abyssinica</i> (Bruce) J.F.Gmel	Rosaceae
7.	<i>Hypericum revolutum</i> Vahl	Guttiferae
8.	<i>Juniperus procera</i> Endl.	Cupressaceae
9.	<i>Maesa lanceolata</i> Forssk.	Myrsinaceae
10.	<i>Olea europaea</i> ssp <i>cuspidata</i> (DC.) Ciffieri	Oleaceae
11.	<i>Osyris compressa</i>	Santalaceae
12.	<i>Pittosporum viridiflorum</i> Sims	Pittosporaceae
13.	<i>Schefflera abyssinica</i> (Hochst. Ex A. Rich) Harms	Araliaceae

Source: EOC-DICAC (unpublished).



## Appendix 2: Tree and shrub species list of Asebot Debre Wegeg Monastery Forest.

No	Species	Family
1.	<i>Acacia etbaica</i> Schweinf.	Fabaceae
2.	<i>Acokanthera schimperi</i> (DC., A.) Schweinf	Apocynaceae
3.	<i>Cadia purpurea</i> (Picc.) Ait.	Fabaceae
4.	<i>Cassipourea malosana</i> (Bak.) Aliston	Rhizophoraceae
5.	<i>Clerodendron cordifolium</i> A.Rich	Verbenaceae
6.	<i>Debregeasia saeneb</i> (Forssk.) Hepper & Wood	Urticaceae
7.	<i>Dichrostachys cinerea</i> (L.) Wight & Arn	Fabaceae
8.	<i>Ehretia abyssinica</i> R. Br. ex Fresen	Boraginaceae
9.	<i>Euclea schimperi</i> (DC., A.) Dandy	Ebenaceae
10.	<i>Grewia bicolor</i> A. Juss.	Tiliaceae
11.	<i>Heteromorpha trifoliata</i> (Wendl.) Eckl. & Zeyh	Apiaceae
12.	<i>Maerua angolensis</i> Dc.	Caparidaceae
13.	<i>Maytenus senegalensis</i> (Lam.) Exell	Celasteraceae
14.	<i>Myrica salicifolia</i> Hochst. ex A. Rich.	Myricaceae
15.	<i>Olea capensis</i>	Oleaceae
16.	<i>Phyllanthus ovalifolius</i> Forssk	Euphorbiaceae
17.	<i>Pistacia falcata</i> Mart.	Anacardiaceae
18.	<i>Pittosporum viridiflorum</i> Sims	Pittosporaceae
19.	<i>Rhoicissus tridentata</i> (L.f.) Wild & Drummond	Vitaceae
20.	<i>Rhus glutinosa</i> A.Rich	Anacardiaceae
21.	<i>Rhus retinorrhoea</i> Oliv.	Anacardiaceae
22.	<i>Rytigynia neglecta</i> (Hiern) Robyns.	Rubiaceae
23.	<i>Schrebera alata</i> (Hochst.) Welw.	Oleaceae
24.	<i>Senna petersiana</i> (Bolle) Lock.	Fabaceae
25.	<i>Tarchonanthus camphoratus</i> L.	Asteraceae
26.	<i>Teclea simplicifolia</i> (Engl.) Verdoorn	Rutaceae
27.	<i>Tephrosia emeroides</i> A. Rich.	Fabaceae
28.	<i>Terminalia brownii</i> Fresen.	Combretaceae
29.	<i>Trichocladus ellipticus</i> Eckl. & Zeyh	Hamamelidaceae
30.	<i>Vernonia amygdalina</i> Del.	Asteraceae

Source: Forest Genetic Resources Conservation Project, IBCR (unpublished).